THE WORLD'S WORK

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By EDGAR ALLEN FORBES

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The World's Work

WALTER H. PAGE, EDITOR

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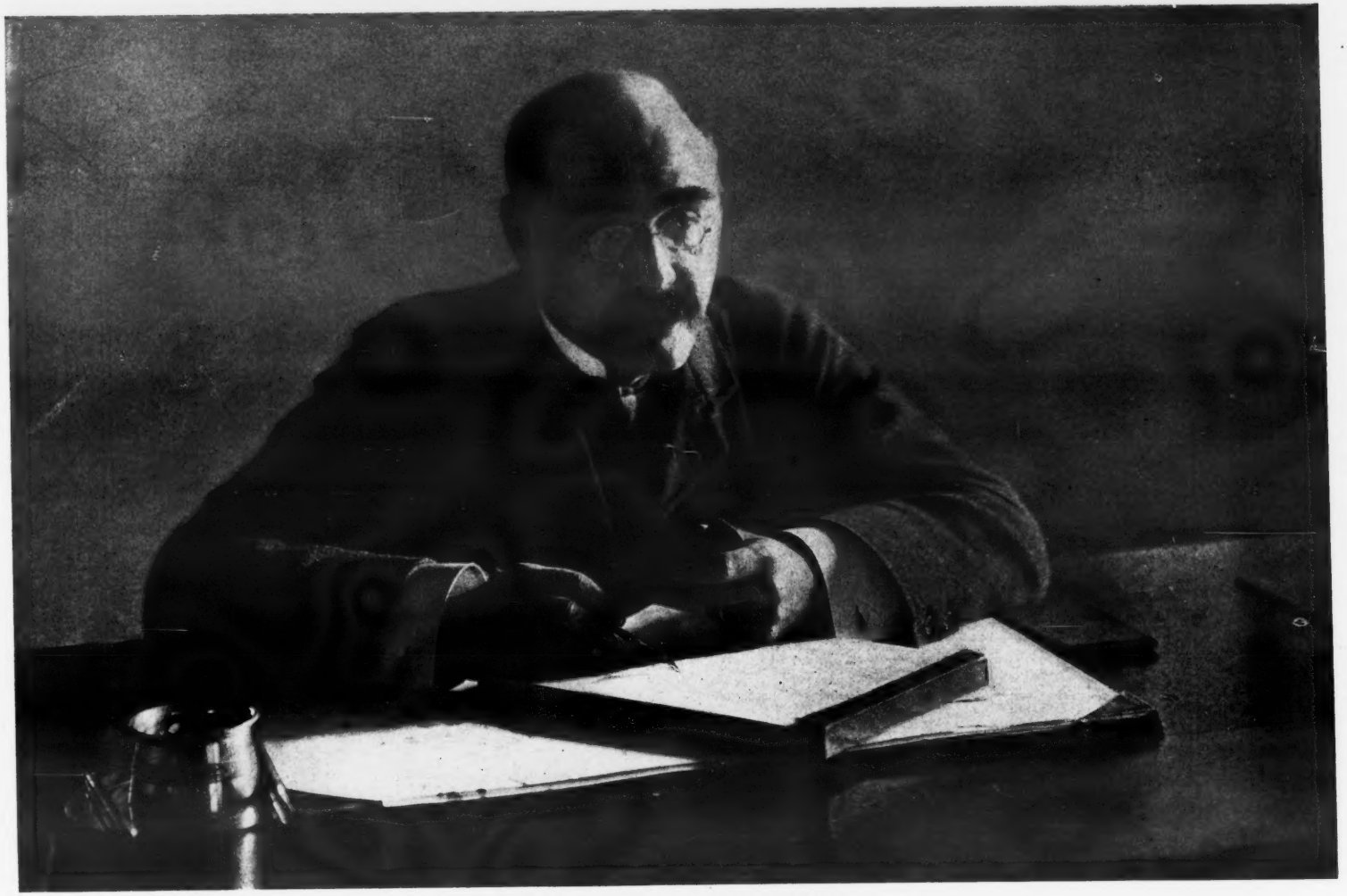

A NEW PORTRAIT OF MR. KIPLING

WHO IS THE FIRST WRITER OF ENGLISH TO RECEIVE THE NOBEL PRIZE FOR LITERARY ACHIEVEMENT

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THE WORLD'S WORK

FEBRUARY, 1908

VOLUME XV NUMBER 4

The March of Events

SEVERE as the panic was and far-reaching and continuous as its effects are, the fundamental financial and commercial strength of the country has not been broken. There are many signs that it has so far suffered less than even conservative men feared; and, with fair crops this year, recovery will probably be so rapid as to startle the world.

Still, there may be trouble yet to come. We can hardly hope for a continuously steady return to normal activity and prosperity. It must be an uneven journey — how uneven and rugged, no man can predict. There may be more failures in the mercantile, in the industrial, and perhaps in the financial worlds. For the full effects of a panic do not come to the surface till months afterward, just as many of the mortally wounded in battle die slowly.

The first rebound toward financial recovery was remarkably quick; but the first rebound is always followed by other depressions — must, by the very nature of our business organization, be so followed. The readjustment between the banks and their customers has put brakes on many industries, in proportion to the difficulty of manufacturers and merchants in securing loans. For this reason industrial and mercantile embarrassments came and yet all the damage so far done is not great enough to spell disaster, but only, so far, to make a check.

Nobody can say how slow or how fast complete recovery will come, for nobody knows the total of weak or unsound business concerns or of the inflation that was mistaken for solid prosperity. But this is certain — bankers, manufacturers, merchants, business men of all sorts are during these months on trial. Their courage is on trial; for courage is what is needed — not a blind reckless sort of daring that will take risks on falling resources, but the quiet and insistent courage such as a few great leaders showed in Wall Street during the actual panic. In proportion as such leaders show themselves in every business community will the way back to normal conditions be easy and the journey continuous.

REBUILDING PROSPERITY

THE breakdown of prosperity was a breakdown of confidence. Whatever the several causes of it were, this was the result. The depositor lost confidence in his bank; the merchant lost confidence in his customer's ability to pay; the manufacturer lost confidence in the merchant's ability to pay; everybody at once wished to collect his debts; and the banks lost confidence in all but the soundest of their borrowers. Around this wide circle a general fear ran; and general fear is another name for panic.

The task now, therefore, is to restore confidence. But restoring confidence is not a mere mental performance. You cannot go about saying to the persons with whom you have dealings: "Now my confidence in you and your business is restored"; nor can men hold mass-meetings and remedy the matter by resolving that commercial confidence is again at work. Yet the restoration of

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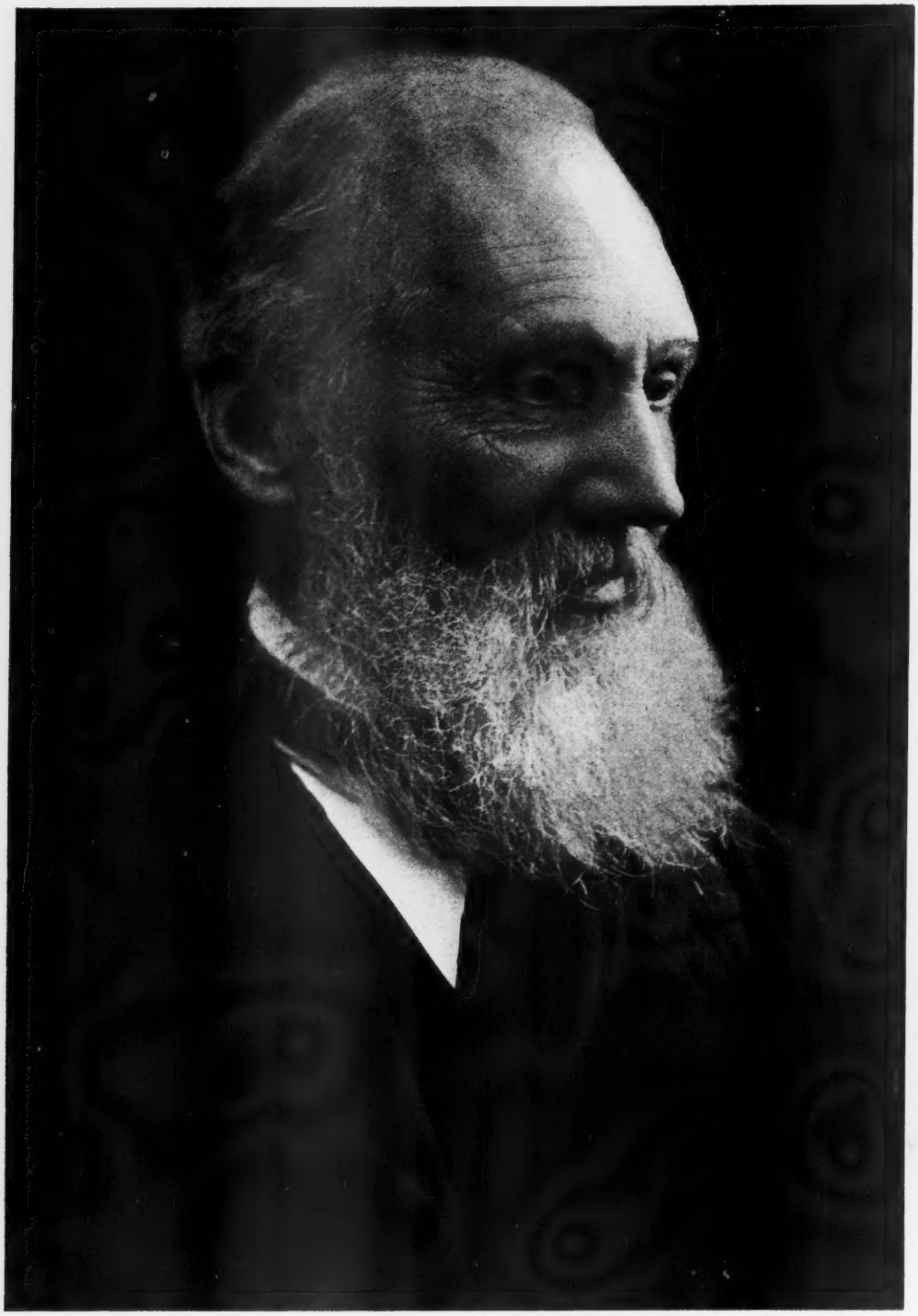

THE LATE LORD KELVIN (SIR WILLIAM THOMSON)

A GREAT TEACHER, A GREAT INVESTIGATOR IN PHYSICS, A GREAT INVENTOR, AND THE BUILDER OF A FORTUNE, WHO BECAME ALSO A MEMBER OF THE HOUSE OF LORDS, PROVING THAT A REALLY GREAT MAN MAY BE GREAT IN MORE WAYS THAN ONE

PROFESSOR ALBERT A. MICHELSON, OF THE UNIVERSITY OF CHICAGO

THE SECOND AMERICAN TO RECEIVE A NOBEL PRIZE, TO WHOM IT IS AWARDED AS A RECOGNITION OF DISTINGUISHED ACHIEVEMENTS IN PHYSICS

[*See "The March of Events," page 9844*]

confidence is pretty nearly all that is needed to set all the wheels of prosperity going again.

For the recent panic differs from others that we have suffered in this important respect—it was not caused by bad crops or by the misdirection of industrial activity or by loss of actual wealth. The real wealth of the country and its productive organization are greater and better than they ever were before. There is much money — vast quantities of money — more than ever before. We have no great stores of necessities. There has not been an era of "over-production." We must still go on producing all the staple articles of trade and all the necessities of life in practically undiminished quantities. The restoration of commercial and financial confidence, therefore, is the main task. How can men go about so subtle a task?

One of the first steps is to get rid of unprofitable and unsound business enterprises and concerns. Always, especially in unusually prosperous eras, there arise in every kind of business a number of men and a number of concerns that live on a false basis. They swim on the tide. They contribute nothing to the industrial community. They are "carried" by easy credit — by other concerns or by banks. They are the result of bad management or of bad judgment or of misdirected work. If all these could quietly be got rid of, a very long step would be taken toward a general restoration of confidence.

To prune these unsound branches of the great business tree is obviously impossible. Men whose affairs are badly managed or are for any other reason on an unsound basis do not give up, as a rule, till they are forced to give up; and, in many cases, there is no way to force them except ways that often seem to make a bad situation worse. There are, for instance, many tottering concerns held up by bankers or other friends, lest their open failure should shake confidence still more.

Still there are ways quietly and decorously to eliminate unsound activities and conditions. One way is that every capable man should see to it that no part of his own affairs is unsound. If one part of his business has been "carried" by another part, he had better discontinue it. The whole business will be the better off.

Again, if you owe money, pay it at any reasonable cost. Sometimes it is wise, at such a time, to pay even at an unreasonable cost. Every dollar cheerfully and promptly passed from man to man makes the passage of the next dollar easier in either direction.

During the time of great prosperity you increased your expenses — the expenses of your business and the expenses of your living — more than you meant and more than you knew till you came to a halt. In your reduction of them, you have a good chance to show your best judgment — to lop off those that do not contribute to efficiency, but to make sure that you do not go further. If you cripple your working efficiency (assuming that your business is really a sound one), you will have to build it up again at a wasteful cost.

These ways of building up confidence, obvious as they are, are not entirely negative. The whole commercial world, when it suffers a panic, must find a cure, as overworked strong men do, not in idleness nor in despondency, but by working sensibly and moderately and yet earnestly, by cleaning house and toning up the whole system.

In every such time, too, every man of affairs has an obligation to the whole business community. The restoration of confidence must be the combined work of the community, and every man has a chance — indeed, it is his duty — to contribute to it. And every man contributes to it in proportion to his sound action in managing his own affairs and to his consideration shown to others. Pay all your debts if you can, but be as considerate to your creditors as your condition and safety will permit. Do not take advantage of another's misfortune.

In a word, since business confidence rests on character and, in the last analysis, has no other basis, put all your character into every part of your own business. See that it is all sound, that no part of it is inflated, nor misdirected, nor wastefully conducted. Then show your character in dealing with others — by helpfulness, consideration, energy, judgment. We broke down because a part of the business world suffered a temporary breakdown in character. To reverse the process is to lead back to prosperous activity.

ABOUT BUSINESS LEADERSHIP

ONE of the effects of every panic is the loss of courage which men suffer. The *Wall Street Journal* reports that not a few men who were strong leaders of big enterprises last year have had their spirits crushed, and it speaks of others whose mental vitality

SIR HORACE CURZON PLUNKETT

FOUNDER OF THE IRISH AGRICULTURAL ORGANIZATION SOCIETY, AND ORGANIZER OF COÖPERATION IN IRELAND, WHICH IS BRINGING A NEW ERA IN THE PROSPERITY AND THE SOCIAL LIFE OF THE PEOPLE

[*See "The March of Events," page 984*]

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THE CENTRAL AMERICAN PEACE CONFERENCE, WITH SECRETARY ROOT AT THE HEAD OF THE TABLE

WHOSE RECENT MEETING IN WASHINGTON RESULTED IN AN AGREEMENT WHICH, IF RATIFIED BY THE REPUBLICS, WILL GUARANTEE PEACE AND FUSE THEM INTO A SINGLE GOVERNMENT

[See "The March of Events," page 9839]

has been so shattered that they will never again do important work. This loss of courage and of leadership is perhaps more serious than the loss of real wealth. When strong men see well-laid plans fail, not through mismanagement, but through the general falling away of confidence, and when the same constructive qualities that brought success suddenly lead to failure, there comes a very serious loss of energy in the business world; for leadership counts for quite as much there as in military affairs. But, as in military affairs, if fools or knaves get power, in the general slaughter good captains fall as well as bad ones; and to a certain extent the army has to be reörganized and new leaders found. Such an experience has its human tragedies and takes toll of courage and even of life, as well as of material values.

If every kind of business and every business community have good captains now, whether they be old or new — men of real courage and of such good judgment as to win the complete confidence of their fellows — the work of restoration will go steadily forward.

But all such generalities are useful only as they have personal application. If you are a business man and have courage and qualities of leadership, you now have an opportunity to show them for the benefit of your community. If there are men about you who have these qualities, rally to them and help to bring the community to their methods. After all, whether we are to be slow or quick in coming back to normal conditions depends on the aggregate action and mood of individual men, you among the rest. The panic didn't fall from heaven, nor is prosperity going to descend from the clouds. Both are the results of every-day individual conduct and of the aggregate of individual character.

THE WAVE OF BANKING REFORM

LESS than four months ago it seemed hopeless to expect any sweeping reform of the banking conditions throughout the United States. At every session of Congress for years, attempts had been made to pass or to amend the laws looking toward better currency, sounder banking principles, more efficient supervision of the banks. Every Comptroller of the Currency for many years had asked for a more adequate appropriation to make his supervision better. The best that any of the reformers was able to get was some slight change of little help.

In the states it was the same. Reform of the New York laws has long been recognized in banking circles as imperative. Albany did nothing. Supervision by the banking department was a jest. The trust companies and the state banks could, had they cared, have gone much farther than they did go in the direction of unsound banking. Only the strength and cleanliness of the banking community itself stood between the banks and debauch.

But to-day, thanks to the panic, New York is awake to the danger of unsound banking, and the chance of some real reform at Washington seems good. The Hughes Commission promptly appointed in New York reported promptly. Its recommendations are sound. Governor Hughes has already endorsed them. The Superintendent of Banks, Mr. Clark Williams, ordered the state institutions to make weekly reports, beginning with the last week in January, so that the public will not have to content itself hereafter with a partial statement of the condition of the banks, but will have the figures for them all.

A good start has been made. The legislature of New York may even go too far. Yet the movement to limit the deposit of savings in state banks and trust companies, the movement to force such institutions to safeguard their savings deposits as well as they are safeguarded in the savings banks, and the movement for a stronger reserve against current liabilities in the trust companies are deserving of the strongest popular support. In fact, unless the people of this state support such laws, they stand in their own light.

In other states reform starts more slowly. The lead of New York was needed, perhaps. In the long run, we may hope, the lesson of 1907 will bear fruit in the shape of adequate savings-bank laws in every state. Only nineteen of the states have even the semblance of such laws to-day, and only half a dozen have adequate laws. In many states, the savings of the people are exposed to the risks of the commercial bank. It may well be hoped that the wave of banking reform which has swept over New York will carry into these states an overwhelming movement in the direction of separating savings deposits from commercial deposits.

The recent banking troubles have given an immense impetus to the movement for

postal savings banks. If every state in this country had adequate savings banks, there would be little need for the postal banks. Because in nearly every state the savings of the people are exposed to dangers that they should not be obliged to meet, the postal savings idea has spread and will undoubtedly become more and more popular as time goes on.

Postal banks will at least give safety to the small depositor, where savings banks are not properly safeguarded. On the other hand, they will not give an adequate return in interest. Moreover, they will draw away from the various communities the funds of the depositors, taking them to great financial centres rather than allowing them to remain and be used in the communities in which they were gathered together. Nor does it seem at all probable that the Government will administer these banks any better than it administers the postal service. Moreover, the present national bank supervision does not give promise of very efficient governmental bank management.

The net result of new banking legislation bids fair to be good. Even the hysteria of California's Governor, Mr. Gillett, will probably result in strengthening the safeguards on trust company banking in that state.

If 1908 brings to the people of the country an added grist of laws that can be enforced, and that shall make bank deposits safer, we shall probably live long enough to thank Fate for the banking panic of 1907 ; for it may save us from a worse catastrophe.

THREE STORIES TOUCHING BUSINESS MORALS

HERE are stories of three men who stand well, or did so stand for many years, in the community in which they lived. An interesting question is : Do they deserve now to stand well, or are they enemies of the common welfare?

I

Smith (so we will call him) is a prosperous man who kept an account in one of New York's substantial banks. During the panic it was hard even for prosperous men to get money for their pay-rolls and other legitimate purposes. So anxious were many concerns not to cause inconvenience to their employees that they paid as much as 3 per cent. to turn their checks into cash. Smith, knowing this, and having $10,000 in the bank (which, by the way, he had originally deposited in the form of checks and drafts) cast about for some way to make money at the expense of somebody else. He asked his bank to cash his check for $10,000. The bank officers agreed to do so if he would assure them that he needed the cash. To get it he said that he had made a purchase, and that the seller would not take even a certified check but demanded cash and, the bargain being a good one, he did not wish to lose it.

He received the cash and straightway took it to a money-broker's and got for it a check for $10,300. This check he foolishly deposited to his credit in the same bank from which he had drawn his money. The cashier recognized it as the check of a well-known firm of money-brokers, and upon questioning the depositor forced him to admit the deception that he had practised, and requested him to take his deposit away. "We will not knowingly have a customer of that kind in the bank," he said. Smith, after many protestations and pleadings, was forced to accept his dismissal, thereby illustrating the proverb that a good name is more to be chosen than $300.

II

Jones (or so we will call him) was discovered by a friend in the frenzied line of persons who were drawing money from a trust company which did not fail. He was a man of property and of standing. The friend expostulated with him, and tried to convince him, first, that the trust company was solvent; secondly, that it was his duty to set an example to the less intelligent and more timid; and thirdly, that, even if there were real danger, he should take his chances with the rest and not help to bring on general disaster. To this Jones replied that everybody must look out for himself, and the rest of the world might go hang. His friend's arguments proved unconvincing and the friend offered to bet him a hat that the trust company would pay everybody. He accepted the bet and when last heard from had not even paid the wager — which seems to prove that some timid people are untrustworthy in more ways than one.

III

Brown (or so we will call him) tried to do what Smith did, but his bank would pay only in silver coin. Being greedy, he decided to

accept the silver and to hire a truck and men to guard it. But the money-brokers declined to buy this silver in such large quantity unless the bags were left for several days to allow them to count it; and they would give him only a receipt for bags "said to contain $10,000." This receipt being of no use to Brown, he inquired where he could get the silver changed into bills, and he was told at the sub-treasury. But the sub-treasury, being bothered by several gentlemen of the same ilk, would give him only the same kind of receipt — "said to contain," etc. By this time he found his silver a burden and an expense, and he carted it back to the bank, where he was told that all dealings with him had ceased. After paying his expenses for the hack and guards, and several days' delays on a falling premium, he came out barely whole on his venture and lost a reputation when a reputation was most valuable — which seems to prove that a man endowed by providence with the intelligence of a truckman has no business to undertake large financial transactions.

The important thing about these experiences is that all these men felt that they had been badly treated and had acted with commendable zeal and enterprise; and, worse still, many of their friends agreed with them, claiming that they had been, or had tried to be, "smart." One wonders what proportion of our people feel that in time of stress everyone has the moral right to forget the interest of everybody else. How strong or how weak is most men's sense of loyalty to the whole community, when by a selfish disloyalty they can make, or think they can make, private profit? May these little experiences not show the connecting link between panic and — a lack of character?

THE PASSING OF CORPORATION SECRECY

MR. JOHN D. ARCHBOLD, vice-president of the Standard Oil Company, has declared that the policy which his company so long maintained of silence about its affairs and of silence under attack has proved to be an erroneous policy; and the commercial public eagerly read what he wrote in the *Saturday Evening Post*, of Philadelphia, about his company's methods. And there is no doubt of an enormously favorable effect of such a declaration on public opinion. Similarly, President Trumbull, of the Colorado and Southern Railroad, spent some time in making public addresses to business men along the line of his road about the policies and aims of his company.

In a sense, it is true that the business affairs of an industrial corporation or even of a railroad are its own affairs and that the public, beyond its stockholders, have no right to be curious about them. But, since public opinion rules us at last, it will act in ignorance, as any other ruler will act, if facts are withheld from it. The fact which it has been hard for many great corporations to learn is that they are in a large sense public institutions. The public, which is served by them and maintains them, so regards them. Always, too, beyond a legitimate right or even a legitimate curiosity to know something about them, there exists a desire to know; and this desire, if it be denied, or seem to be denied, easily turns into suspicion. For there is an inevitable prying quality in public opinion, which has no doubt been made very acute by the prying quality of our newspapers for a generation—an illegitimate curiosity that goes beyond the public's rights. But, whether this curiosity be legitimate or not, it is wise to heed it. It is necessary, in fact.

And it is well that it is necessary. A policy of frankness with the public is the only wise policy to pursue. It would be interesting to know to what extent foolish and fanatical local legislation against railroads would have been lessened if all the railroad companies had been frank with the public and had taken the trouble to keep the public informed about their activities and aims. In the first place, some activities and aims would have been greatly modified if they had been stripped of all secrecy. In the next place, the public would have had more facts to draw conclusions from and there would have been, consequently, a less play of sheer prejudice.

If this has been a hard lesson to learn, it is a very useful one; and, while it is to be hoped that all great corporation managers and railroad presidents will not take to writing magazine articles and making speaking tours, the examples of Mr. Archbold and Mr. Trumbull ought not to be lost by other men of similar positions. The public is a most unreasoning thing if it be neglected, or if it think that it has been neglected or imposed on; but it may be a very reasonable master if it be treated with confidence and frankness. The great art of taking it into one's confidence far enough to satisfy all its legitimate rights and not far enough to encourage improper prying

is a necessary part of a great corporation manager's equipment. He must be a politician in the best sense of the word — in a frank and not in a cunning way.

But one thing is certain, the day of secrecy is gone.

FOR A BROADENED AND EFFICIENT POST-OFFICE

POSTMASTER-GENERAL MEYER has asked Congress for a parcels-post and a system of postal savings banks. He recommends, as most of his immediate predecessors have done, that the weight limit for parcels be raised from six to eleven pounds. The parcels-post has been a success wherever it has been tried abroad. There is no logical argument against it and the opposition comes chiefly from those who profit by the bad and costly system of package delivery now in existence. For example, to send a 4-pound package from Chicago to Auckland, New Zealand, costs 48 cents; an 11-pound package $1.32. To send a 4-pound package from one part of Chicago to another part costs 64 cents, and an 11-pound parcel cannot be taken by the post-office at all. Mr. Meyer's recommendation includes a special parcels-post on rural routes at reduced rates for packages originating and delivered on the same route, for the convenience of the farmers and country merchants.

He asks also for postal savings banks. They would make places of deposit convenient to all the people. At present most of the country is poorly supplied with savings institutions. The experience of Canada has shown that a postal savings system can be handled safely and economically on American soil. If this can be done by our neighbors, why not by us?

Not only has the Postmaster-General himself thus put together large plans for usefulness to the people in the greatest number of ways, but in the administration, of the department there has come a radical change. Consider, for example, the difficult duties that fall to the Third-Assistant Postmaster-General, who has to do with the complicated law concerning periodical literature. Under a foolish previous administration, the whole publishing world was kept in constant confusion, and the obvious main purpose of cheap postage on periodical literature was utterly forgotten and a "smart" effort was made really to censor the whole American press. Under Mr. Lawshe, the present Third-Assistant, a reasonable interpretation is put on the same body of law, and lo! it works well. There is a greater difference between the size of one man and the size of another man than between the sizes of worlds in the universe.

TWO POSSIBLE LESSONS FROM CANADA

PRESIDENT ELIOT of Harvard has pointed out the radical difference between the relation of our states to the Federal Government and the relation of the Canadian provinces to their central government — a difference that has a direct bearing on our most serious problems. In Canada all powers not specifically delegated to the provinces belong to the central government. In the United States all powers not specifically delegated to the Federal Government belong to the state governments. Now, most recent problems of government — such industrial problems, for instance, as railroad regulation and corporation control — are national in their scope. In Canada they are, by the nature and organization of the Government, questions for the central authority to deal with, and not at all for the authority of the provinces. They are national questions because communication is so swift that the country has — in effect — shrunk in area in proportion to the excellence of its transportation. For the same reason our Federal Government is theoretically the most logical agency to deal with them, but by our system the "general welfare" clause or some other general clause of the Constitution must be stretched to permit our Federal Government to take such tasks in hand. Yet, as Mr. Eliot has said, in effect the whole United States is now smaller than New England was when the Constitution was adopted. Whether the Canadian system or our own be the better may still be an academic question; but time will prove.

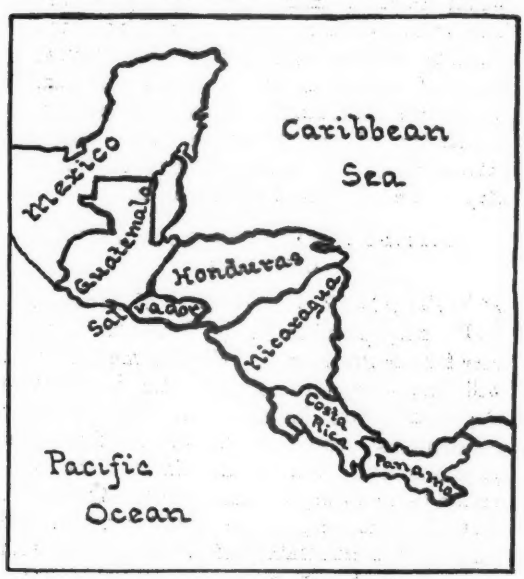
II

Among the national measures which the Dominion Government has passed is an "Industrial Disputes Investigation Act." Either party in any labor dispute (in certain designated industries) may ask for an investigation by a board of three members, one to be appointed by the employers, one by the employees, and the third selected by these two. The board must be appointed within fifteen days. During its investigation any lock-out or strike is

punishable by large fines. But, as soon as the investigation is made, either side may proceed by any legal method to obtain its end. The object of the investigation is to afford full and accurate publicity in all disputes. Informed public opinion is counted on to prevent industrial disturbance; and so far it has worked admirably.

A POSSIBLE NEW ERA IN CENTRAL AMERICA

A NEW chapter in the history of the republics of Central America was probably begun when their representatives recently met in Washington and formulated a set of articles whose ultimate aim is the fusion of the states of Guatemala, Honduras, Salvador, Nicaragua, and Costa Rica into a single strong federation. The delegates came in response to a call from the United States and Mexico, and they completed their work with despatch



THE STATES REPRESENTED AT THE CENTRAL AMERICAN PEACE CONFERENCE LIE BETWEEN MEXICO AND PANAMA

and unanimity. In the articles of confederation agreed upon as a preliminary step, the people of the United States see a sort of reproduction of the process by which we made the transformation from a band of disorganized colonies to an indissoluble union.

The delegates reached agreement first upon a treaty of peace and unity. Every difficulty that may arise among the republics is to be decided by a tribunal to be known as the Central American Court of Justice. The citizens of one republic are to enjoy the rights of citizens of other republics while living within their borders; the interchange of official relations shall be carried on; an agricultural college is to be established in Salvador; a school of mines and mechanics in Honduras; and a school of arts and trades in Nicaragua — each to have the support of all the governments. This treaty is to remain in force for ten years and thereafter for one year from the time that any one of the republics gives notice of its wish to terminate the agreement.

The second article relates to the court of justice, which is to sit at Cartago, in Costa Rica, and will consist of one justice and two substitutes from each country, the incumbents to be named by the legislatures for terms of five years. The jurisdiction of the court will include the provisions of the treaty and other matters of international law. Each republic is to bind itself to observe and enforce the decisions of this tribunal.

The third article, which is to be in force for at least five years, provides for an investigation of the monetary and customs systems of the five republics, their weights and measures, and other matters that have a direct bearing upon their economic welfare.

Article four forbids any of the states to recognize governments that may come into existence as the result of petty revolutions.

The fifth — and one of the most important — provides for the establishment in Costa Rica of a normal training school for the teachers of all of the Central American States. This is to remain in force for fifteen years and is an effort to unify the diverse systems of education.

Article six — the most indefinite of all — provides for an international bureau to be located in Guatemala. It is to be composed of one delegate from each republic and its scope includes practically everything that is understood in the phrase "for the good of the order." International politics, education, commerce, agriculture, manufactures, law, economics, sanitation, and many other branches of human activity are to be managed by these five men.

The seventh, which deals with the problems of transportation and communication, recommends the appointment of a commission to study routes within the limits of Central America that are suitable for a Pan-American railroad.

The last deals with the delicate question of extradition — delicate because so many of the prominent men of these republics have been involved in revolutions and have taken refuge beyond the border-lines of their respective countries.

The treaty and the conventions must, of course, be ratified by the republics individually. This list of articles, which to us seems to be merely a businesslike agreement, includes some "burning questions" in Central America, and much oratory will be provoked — and not a few personal encounters. However, the demand for federation and stability comes from business interests and does not rest wholly upon a sentimental basis; and the substantial citizens of these long turbulent states are keenly alive to the wonderful prosperity that has come to Mexico since tranquillity became the order of the day. If this plan of unification, peace, and practical progress be carried out, it will be an important chapter in the history of the Western Hemisphere.

THE CRITICAL PROBLEM OF THE RAILROAD COAL MINES

AFTER May 1st, it will be illegal for any railroad to carry coal over state lines from any mine in which that railroad has a proprietary interest, direct or indirect.

And capital is scarce. The coal lands in Pennsylvania under the control of the Reading, the Lehigh Valley, and the Lackawanna railroads alone are worth, one may say, several hundred millions of dollars. Under the Hepburn Act of 1906, these lands must be sold prior to May 1st, or the railroads must cease to carry the coal across state borders.

The object of the act, of course, was to force the sale of these lands and mines. The act, however, failed to supply a buyer. It is not too much to say that to-day there is no buyer in sight. The railroads can, at will, create dummy companies to buy these lands; but that, clearly, is away from the intention of the law.

Steps are under way, on the part of the railroads, to secure an extension of time to carry out the sale. In fact, if such extension is not granted, it is an open secret that the companies will discuss the plan of obeying the law, closing the anthracite mines except for local state production, and of leaving the larger problem to be solved later, in whatever way it can be solved.

But no such nonsensical result is likely to come. There is no reasonable doubt that an extension of the time will be granted, and the enforcement of this law should be delayed until capital can be found to finance a transaction so gigantic. If there should be a serious struggle over the matter, it might open one of the most dangerous agitations in our recent history.

Obviously, if a genuine sale of these properties is forced, the properties must be sacrificed. Injunctions, damage suits, and endless litigation would ensue. In nearly every case these coal lands are mortgaged under railroad bonds. In every such case, an adjustment must take place. Bondholders and stockholders of the railroads would have separate and distinct grounds of suit and restraint against such a sale.

The Government of the United States would seem to many the one logical buyer. The whole problem, involving so many considerations of state rights, of property rights, of liens, of values, is one of the worst puzzles of our era. Primarily, it involves the constitutionality of the Hepburn Act; and the settlement of that question may be the first step in the solution of the problem.

DRIFTING TOWARD THE PRESIDENTIAL CAMPAIGN

GOVERNOR JOHNSON, of Minnesota, may possibly be the Democratic nominee for the Presidency. He or some such man will surely be if the Democratic delegates to the convention have the courage of their constituents' convictions, which they will probably lack. For the machinery of the party seems to be strongly committed to Mr. Bryan. But there is very grave doubt whether the masses of Democrats prefer him. Talk with well-informed men in any part of the country and you will instantly discover that they regard Mr. Bryan's defeat as certain, if he should be nominated. Nobody gives any good reason why he should be again nominated, and yet everybody expects him to be.

If the party's managers, or if any group of Democrats, can in the next four or five months pull the party out of this negative mood and inert drift to defeat, and nominate (let us say) Governor Johnson, there will be a contest with at least enough spirit in it to be interesting; and the Democratic party will start itself again on the way toward a position where

it can fight and win — if not this year, some other year.

For Governor Johnson, like Mr. Cleveland, goes back to a reform of the tariff as the main party issue and the hope of victory. Every other task that Democratic orators and managers will formulate has been done, or is likely to be done, by their opponents. There is no radical difference of opinion or of position between the two parties but this. And, if the Democrats throw away their chance to emphasize tariff reform this year — if, in fact, they fail to concentrate their campaign on it — the Republicans may take up the subject before another Presidential election comes and go just far enough in removing the worst scandals to prevent the Democrats from making an effective campaign thereafter.

For thoughtful students of current politics, this is the centre of interest. Most other subjects that the campaign orators will discuss are windy — such as imperialism, concentration of governmental power, and all such; for the regulation of railway rates and the restraint of corporations, which is the only other living subject, will not change the usual party lines. What Mr. Roosevelt's administration has done will outweigh what the Democrats may promise to do.

There is one influence on the election the effect of which cannot yet be very accurately foretold — the influence of business depression. If it continue till the Fall, it will have a strong tendency to help the Democrats ; for a business depression always works to the injury of the party in power. Yet, critical as a large part of the financial community is of Mr. Roosevelt, the business world in general is far more favorable to a Republican than to a Democratic administration, especially to an administration under Mr. Bryan. Governor Johnson, who has not been identified with commercial or financial vagaries, would win the confidence of the business world if any Democrat can.

THE NAVAL CONTROVERSIES

THERE has been, time out of mind, an earnest and sometimes bitter conflict between the staff and the line in the navy. Ten years or more ago, it was thought that this old ghost had been put to rest, but it was not. It is one form of this old controversy that set the President and Rear-Admiral Brownson at odds. The President, against the advice of the Rear-Admiral, who was the head of the Bureau of Navigation, appointed a medical officer to the command of a hospital ship. Thereupon Rear-Admiral Brownson resigned his post because, as he expressed it, the President's action implied a lack of confidence in his professional judgment. And the President in a letter to the Secretary of the Navy, severely rebuked the Rear-Admiral for resigning from the Bureau of Navigation from personal pique.

Whether hospital ships should be commanded by medical officers is a question upon which laymen may hardly express an opinion. The President holds that they ought to be commanded by medical officers, as is the case in the Japanese navy. But, apart from the merits of the case, the letters that the President wrote on the subject caused a momentary sensation because of his rebuke to the Rear-Admiral for resigning from the Bureau of Navigation for such a reason. Here arises a question of naval discipline and ethics.

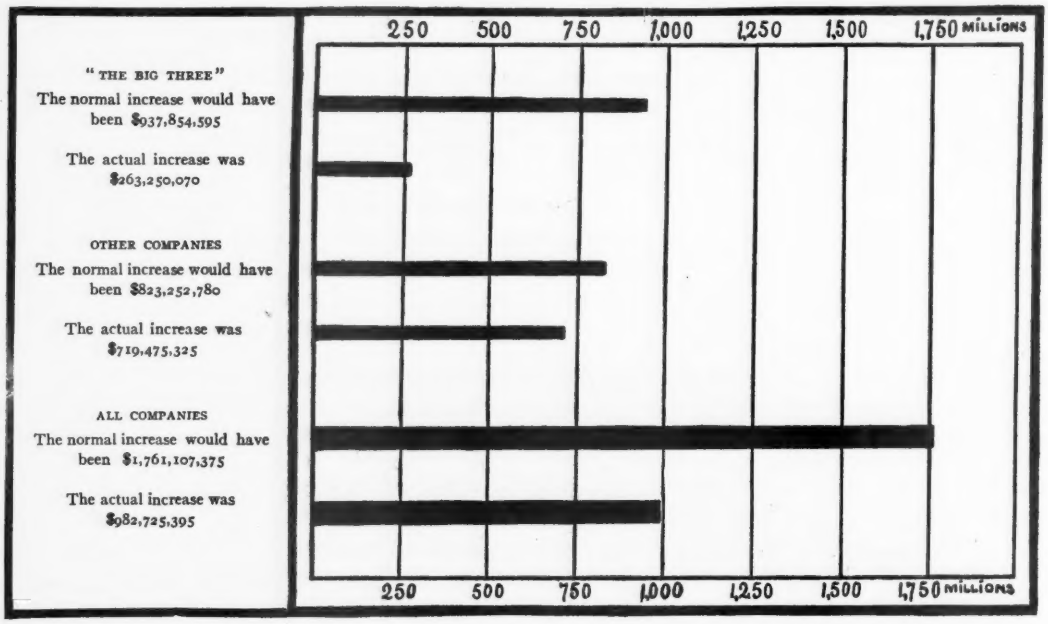
This incident reveals the bitter feeling in the Navy about the old controversy between the staff and the line; but it would not have made much impression on the lay mind if it had not happened to come simultaneously with severe criticism of the construction of our most recently built battleships and of the whole bureau system of naval administration. These criticisms, which for a long time have been persistent, were massed in an article by Mr. Reuterdahl in *McClure's Magazine*, just when the fleet was starting for its Pacific cruise, and they caused the public seriously to wonder whether our naval construction has been as faulty as its critics assert and whether the bureau system of naval administration is bad because of constant conflicts of authority and a consequent lack of efficiency. The President has called these criticisms gross exaggerations. Doubtless much lay criticism deserves this description; but there are naval officers who, in effect, express agreement with the critics, as far as official propriety will admit.

At some time in some way the bureau system will undergo investigation and possibly modification. As regards the endless disputes about the construction of ships, since the building and the equipment of warships is always undergoing change, the ships that are complained of are likely to go into the junk-heap before these controversies end. In the meantime

the public has this consolation: that the efficiency of the officers and of the men on the ships escapes criticism from every quarter and receives the praise and appreciation of everybody who is supposed to have a knowledge of the subject.

NORMAL LIFE INSURANCE CONDITIONS

MR. EDWARD BUNNELL PHELPS, editor of the *American Underwriter*, an insurance journal, has computed for THE WORLD'S WORK the falling-off of life insurance that was caused by the insurance investigation in New York during the first year thereafter ; and this falling-off is presented in the following diagram:



A COMPARISON OF THE ACTUAL INCREASE IN AMERICAN LIFE INSURANCE IN 1905–06 WITH THE PROBABLE INCREASE HAD CONDITIONS BEEN NORMAL

Computed from the reports of the Connecticut Insurance Department for a period of eight years

The meaning of it is that only about four-sevenths as much insurance was written during the year that followed the investigation as would have been written if there had been no investigation ; and the percentage of loss by the "Big Three" New York companies was enormously greater than the percentage of the falling-off felt by the smaller companies.

The calculation is that 87,000 more policies were allowed to lapse during that year than would have been allowed to lapse under normal conditions, of which nearly 75,000 were policies in the "Big Three" companies; and the estimate is that about half of the men who were engaged in life insurance before the investigation have gone into other work.

Of course, since that first year following the investigation, the business of these big companies, as well as of smaller companies, has gained over 1905-6 ; and no doubt the gain has been of a more normal kind of insurance than the great volume of policies that were written in the reckless period of "investment" insurance. The business is sounder and fewer men are bankrupting themselves to keep abnormal policies paid up; and — Mr. Hughes is Governor of New York and a new insurance law is in effect in this state.

THE GEOGRAPHY OF OUR LIQUOR LAWS

ABOUT one-half of the total area of the United States is now "dry" and the barometer indicates that the "drought" will extend to other sections during the present year. The anti-saloon sentiment has developed with great rapidity in every part of the Union except Pennsylvania, New Jersey, and the Rocky Mountain States, but the most interesting fact about the movement is the way in which it has been brought about. The leaders have not appealed to lurid charts in

the school physiologies nor demolished private property with hatchets, but have based their arguments upon economic principles both sound and indisputable.

In the South, for instance, where the most notable prohibition victories have recently been won, there is no Prohibition party of any political importance — but there is a general recognition of the fact that a drunken man, especially a drunken Negro, is a public menace and a public expense. In the interest of decency and order, many men have been willing to overlook their individual preferences and unite in passing laws that must inevitably uplift their communities. So, in other states, the issue has been made against the saloon as an evil against the home, as a menace to the general welfare, as an institution with only a technical right to existence. In Kentucky, where at least a hundred million dollars is invested in distilleries, these arguments have so outweighed the logical crippling of "a great industry" that most of the state is now "dry" and the wholesalers are making a desperate effort to so reform saloons that a state prohibition law may be headed off.

There are now but nine states and territories in the Union where the saloon is master of the situation. While about one-half of the country is "dry," the sale of liquor is absolutely prohibited in only five states, as follows:

Maine — the pioneer prohibition state.

Kansas — from which even the "blind tigers" have recently been cleared out.

North Dakota — where even liquor advertisements in newspapers are prohibited.

Oklahoma — which entered the Union as a prohibition state.

Georgia — whose law, just gone into effect, was precipitated by the Atlanta riots.

Most of the remaining states have local option laws, and one by one the counties and towns are abolishing the saloons. The present status of prohibition is now about as follows:

The liquor belt is hemmed in on the west by the three Pacific Coast states:

Washington — 50 "dry" towns.

Oregon — 12 "dry" counties and 170 "dry" towns in the 21 remaining counties.

California — 4 "dry" counties and many "dry" towns.

Between the liquor belt and the Mississippi River — a region which includes three of the "dry" states, North Dakota, Kansas, and Oklahoma — the anti-saloon sentiment is particularly strong:

South Dakota — one-fourth "dry."

Nebraska — 400 "dry" towns.

Minnesota — 123 "dry" towns.

Iowa — 65 "dry" counties; 34 "wet," all of which have but one saloon each.

Missouri — 44 "dry" counties, 71 "wet."

Arkansas — 58 "dry" counties, 17 "wet."

Louisiana — 65 per cent. of its area is "dry."

Texas — 147 counties "dry," 53 partly "dry," 47 "wet"; no liquor in dining-cars.

Between the Great Lakes and the Ohio River the sentiment varies:

Wisconsin — 708 "dry" towns.

Michigan — 1 "dry" county; towns may not vote on local option as municipalities.

Illinois — 8 counties and 600 towns "dry."

Indiana — 680 "dry" townships out of 1,016; two judges have declared saloon licenses unconstitutional.

Ohio — 1,140 "dry" townships out of 1,376; 60 per cent of towns "dry"; many "dry" districts in "wet" cities.

The Southern States have recently supported the Prohibition movement more vigorously than any other large region:

Kentucky — 97 "dry" counties, 18 partly "dry," 4 "wet."

Tennessee — entirely "dry" outside of Nashville, Memphis, and Chattanooga.

Mississippi — 68 "dry" counties, 9 "wet."

Alabama — entire state will be "dry" after Jan. 1, 1909.

Florida — 34 "dry" countries out of 47.

South Carolina — 17 "dry" counties out of 41.

North Carolina — 95 per cent "dry."

Virginia — 72 "dry" counties, 46 "wet."

West Virginia — 30 counties "dry" out of 55.

Maryland — 14 "dry" counties, 9 "wet."

Delaware — about 50 per cent. "dry."

The anti-saloon element is very strong in the East, particularly in New England:

Pennsylvania — temperance sentiment weak.

New Jersey — the only "wet" state east of the Rockies.

New York — 602 towns "dry" or partly "dry"; New York City "wet."

Connecticut — 96 "dry" towns out of 176.

Massachusetts — 250 "dry" towns, 100 "wet."

Vermont — 24 towns "wet."

Rhode Island — one-half "dry."

New Hampshire — 60 per cent. "dry."

Maine — constitutionally "dry."

One of the interesting phases of this movement is the awakening of the distillers and

brewers to the fact that the most dangerous enemies of their "industry" are the keepers of disreputable dives and saloons. The Wholesale Liquor Dealers' Association of New York proposes that the laws be so changed that the saloon business shall be conducted by "men of recognized character and standing in the community." But in New York City a test of strength would probably show that the disreputable retailers have more legislative influence than the wholesalers; and in places where the prohibition sentiment is strong a saloon-keeper of "recognized character and standing in the community" will soon be an impossibility.

AMERICA'S SECOND NOBEL PRIZE

FOR the second time an American has been selected to receive one of the five annual Nobel prizes. Last year it was President Roosevelt, to whom the distinction came in recognition of his good offices in helping Japan and Russia to come to peace. This year it is Professor Albert A. Michelson, of the University of Chicago, to whom the prize is given for remarkable achievements in physics, particularly in determining the velocity of light.

This year's award for "the most distinguished work in the field of idealistic tendency" in literature goes to Mr. Kipling. Professor Buchner, of the University of Berlin, receives the chemistry prize (which was erroneously announced as having gone to Sir William Crookes, of England). Dr. Laveron of Paris, whose researches in tropical diseases have been of far-reaching importance, was awarded the prize in medicine. The peace prize for this year was divided between Signor Moneta of Italy and Professor Louis Renault of Paris. Each of these prizes amounts to about $40,000.

Professor Michelson, the winner of the physics prize, is of German birth and was formerly an officer in the United States Navy. Since 1892 he has been in charge of the department of physics of the University of Chicago. His most remarkable work has been in devising instruments of precision by which measurements of almost incredible smallness of variation may be determined. For example, every schoolboy is taught that the world's standard unit of length is the metre bar in Paris, which is one ten-millionth part of the earth's quadrant. But it has been found that the irregularity of the earth's surface called for a different form of measurement — and it was Professor Michelson who went to Paris and measured the bar with his "inferometer," which registers variations down to one part in ten million. He has invented another instrument, the "echelon spectroscope," by means of which physicists have announced that it is possible to "ascertain the movements of the electrons inside the atom"— a feat beside which ordinary microscopic work appears grossly mechanical.

Forty Nobel prizes have now been distributed since the endowment was established by the inventor of dynamite. The nationalities of the prizemen are as follows: French 8, English 7, German 7, Dutch 3, Scandinavian 3, Swiss 3, American 2, Russian 2, Italian 2, Spanish 2, Austrian 1.

PRODIGIOUS EDUCATIONAL WORK — AND ITS RESULTS

BIG totals of statistics serve chiefly to confuse the mind, because they conceal the all-important unit, which is usually an individual. Yet the big totals of the report of the United States Commissioner of Education are impressive in spite of their magnitude. For instance, 400 millions of dollars were spent in the United States in 1906 for education in schools. The reports, especially of private educational work, are necessarily incomplete, and the total spent for school work would almost certainly reach 500 millions if it could be ascertained. Of this more than 300 millions were spent on the public schools; about 45 millions on universities, colleges, and schools of technology. The other kinds of schools run thus in the order of their expenditure:

Private schools	21 millions
Schools for the defective	7½ "
Normal schools	6¾ "
Reformatory schools	5⅓ "
Professional schools	3 "
Commercial schools	3 "

In the public schools and colleges there were about 20 million pupils — one out of every four of the population.

Perhaps the most significant of these big items is the expenditure for normal schools, which was more than twice as great as the expenditure for all other sorts of professional instruction. The value of any school is, of course, so directly dependent on the skill and character of its teachers that the training of

teachers is almost the most important form of all this educational activity. While we have not schools enough, nor schools well enough equipped, our chief need is not so much of more schools as of better teachers — of more good teachers. It is significant, too, that "commercial" schools stand as high in the list of expenditures as professional schools of all other sorts. These were once nearly all mere schools of penmanship, typewriting and stenography, and the like; but the range of studies now embraced under the general heading of "commercial schools" is fast coming to be very much wider.

What a significant omission — that there is no item of trade schools! There are not enough of them to form a class in such a general summary.

The meaning of all these vast totals is that we give an enormous volume of activity to the training of the young. Such sums of money were never before spent for such a purpose in any country. The task that they indicate is the need of directing this immeasurable quantity of energy to the best ends — to the very best training that can be given in the world, and to those kinds of training of which we have especial need.

The present mood in the United States is a mood of prodigious educational activity, as these figures signify. School expenditures, inadequate as they are, are increasing in almost all kinds of work and in all parts of the country. But there is neither a professional nor a public feeling that we are solving all our most pressing educational problems, as the Germans, for instance, in a large way solved theirs during the period of their educational revival. There seems to be no general agreement that all or nearly all of our educational work is so directed as best to prepare the mass of American children and youth for the life and the opportunities that await them.

NEARLY HALF A MILLION A DAY IN PUBLIC BENEFACTIONS

LAST year was the most notable in our history for large gifts to public and charitable uses. The record that is kept by the Chicago *Record-Herald* of such published gifts shows that their total was nearly 150 million dollars. This sum includes Mr. Rockefeller's unmatched gift of 32 millions at one time to the General Education Board for the promotion of higher education, his gifts to Chicago University, to the Rockefeller Institute for Medical Research in New York (which is richly justifying his munificence by the discovery of a cure for meningitis and by other most hopeful investigations), as well as many more benefactions. It includes Mrs. Russell Sage's 10 millions to the Sage Foundation for Social Service, and other gifts by her. It includes nearly 9 millions additional to the original 10 millions by Mr. Carnegie to the Carnegie Institution, and about 4 millions from him for other purposes; and it includes the late Miss Jeanes's bequests to charity and her million-dollar fund for primary Negro education. Thus 70 millions were given during the year for educational purposes only; 22 millions for museums, art galleries, and the like, including Mr. Widener's great donation to the art museum in Philadelphia. Eight millions were given for hospitals and asylums, and a larger sum to charities of many sorts. It is noteworthy that large gifts for public purposes were made by several men in the West, hitherto not known to the general public, such as Mr. Creighton, of Omaha, and Mr. Proctor, of Peoria, Ill.

When one year brings such great published donations as these, we may be sure that there were many millions more given in smaller sums. With such a growing habit of giving, it is a little difficult to believe that the accumulation of wealth is dangerous to our institutions. Much of the property of the rich flows back in a single generation into channels of public help; and larger sums so flow in our country than in any other, and in our time than ever before.

THE LINGERING OF A MEDIÆVAL STANDARD

THE contestants for athletic honors in our colleges are required to reach a certain grade in scholarship; but the contestants for honors in scholarship as a rule have no physical requirements made of them. The prizes for scholarship may be given to pale and underfed "grinds." Dr. D. A. Sargent, the director of the Harvard gymnasium, recently made this difference a cause of complaint against the colleges. The notable thing about such a criticism is that it should, in this broad daylight of physical knowledge, be necessary to make it at all. A pale, stooping, flat-chested, soft lad ought not to receive honors of any sort from an American college; for, without enough physical training to keep

him erect and to give his body the normal strength, no lad can truly be educated. In a most serious sense he is mistrained.

The worst of the continued toleration of mere book work by underfed and underexercised youths is that many of them, unable to win success in the more active world, become teachers and finally members of college faculties, and perpetuate the same type of scholars. As Dr. Sargent expressed it:

"Competition is to-day the arch-enemy of all true culture, mental as well as physical. See how it effects the scholarship men and athletes in our colleges and universities. Harvard offers at the present time about $100,000 annually in some three or four hundred scholarships ranging in value from $150 to $500 each. Any student in need of financial assistance may apply for one of these scholarships, provided he has no physical, mental, or moral weakness, and gives promise of future usefulness. After a student receives a scholarship he is advised to consult the director of the gymnasium in regard to his health; but the factor over all others that determines whether a given student shall receive a scholarship is not health or physical vigor, but his mental standing according to the rank book of the faculty. . . . In answer to the question which I usually put to scholarship men, as to their reasons for not giving more attention to their physical improvement — the almost invariable answer is — 'I haven't time.' Back of this reply, however, the careful observer may read in their sad but determined faces the dread uncertainty and constantly harrowing fear lest while they take time for physical exercise, recreation, and enjoyment, their nearest rival may be at the everlasting grind that will land him a few points nearer the desired scholarship goal."

This is not education, whatever else it may be. The Greeks knew better than this thousands of years ago.

THE PAPER-MILLS' DESTRUCTION OF FORESTS

SINCE the supply of wood-pulp in the United States comes mainly from privately owned forests, there is nothing to prevent the paper-mills from spreading ruin over the tracts of land under their control. Young timber of such small size can be used for pulp that there is no chance for natural reforestation. An area as large as the state of Rhode Island is stripped of its spruce every year, and the regions bordering on the forests suffer the usual consequences that follow the destruction of all timber. The menace of the reckless cutting to the timber resources of North America is shown by the fact that the Paper Trust has acquired the timber rights to more than a million and a half acres in the province of Quebec. The Berlin Mills alone has registered timber limits for tracts aggregating about the same number of acres.

In the United States, spruce timber is the chief source of the wood-pulp which is made into paper, and there are no spruce forests west of New York except small tracts in West Virginia, Michigan, and Wisconsin. New York and the New England states are, therefore, most concerned in this ruthless economic waste that takes no thought for the needs of the future. In Maine all the timber townships accessible to large rivers have already been cut over. The Forestry Commission of New Hampshire estimates that, at the present rate of cutting, the entire forest resources of that state will disappear within from eight to twelve years. Vermont's supply of timber is already down to the point where it barely supplies the local demand. New York has wisely taken legislative steps to check timber destruction. On one tract of about $2\frac{1}{2}$ million acres, no timber of any kind can be cut for twenty years. In 1894 the forests of the Adirondacks (about three-fourths of the spruce resources of the state) were set aside as a reserve. The latest step is the appropriation of $1\frac{1}{2}$ million dollars to purchase additional forests for the state. Measures such as these are imperatively needed in every state where private corporations are rapidly destroying trees of any variety without providing for the growth of young trees to take the place of present forests.

THE FARMER AND THE FUTURE

A COMMITTEE of the National Educational Association is investigating rural public schools to find out the best work done by them, and what may be done for the better building up of country life. That is as important an inquiry as any body of men has in hand.

The problems of city life have by no means been solved, for they are the most grievous that civilization has to contend with. But they are at least formulated and, to a degree, understood. Some of them are in some cities intelligently attacked. But we have too easily taken it for granted that the course of rural life runs smoothly and continuously toward

betterment. The farmers — that is, the best of them — have been prosperous. We read much about the return of population from the city to the country. We have lately produced a large and most wholesome literature about out-door living and the freedom and the joy of rural life. But the return to the country is mainly of rich or well-to-do persons, persons of training who can lead pleasant lives anywhere; and we think of and boast of the farmer's prosperity chiefly in the big totals of the Government's crop reports. While the independence and the happiness of the farmers are real in many parts of the land and the level of their lives is constantly becoming higher in comfort and in intelligence, there is nothing drearier in all the modern world than the lives of lonely women and of untrained or mistrained children and of dull, plodding men in many country communities. The trolley and the telephone and the co-operative dairy are not yet within the reach of many millions of country folk. They yet know little, many yet know nothing, of improved methods of agriculture — they plant and reap as their fathers and their fathers' fathers did. Their children attend schools of long out-worn kinds where all that they learn gives them a desire for life in a town; and to the towns they go as soon as a chance comes, as unprepared for town life as for country life.

It will require a hundred years and perhaps more, as we are now going, for all the forces now at work to make farm life attractive, for the good influences now sporadically organized to reach all the people, or nearly all, or to stop the untrained rush to the towns.

In the meantime, there is no other single agency whereby all the people are reached that can have so great an influence as the public schools — public schools where the truth about American life as it is may be taught. Farming cannot be taught in the public schools, but a right view of life can be — such a right and balanced view of life as will lead to the building of rural activity on a sound economic basis.

The occupations of country people must be profitable, more profitable for the average man than the occupations of town folk. This is the economic bottom of the whole problem. When this becomes generally true, the flow of population from the country to the city will become normal.

But there must be other great forces set to work to make country work profitable besides the school — more direct agencies. The National Agricultural Department has done and is doing much. Many state departments of agriculture have done and are doing much. Some of the great agricultural schools, as in Minnesota, have done and are doing much. Some of the organizations of farmers have done and are doing much. Yet there are large sections of this big task that remain untouched. Rural life and rural work are not organized as town life and town work have been organized. Perhaps they can never be so completely and compactly organized.

But the great economic change that is taking place in Ireland, under the leadership of Sir Horace Plunkett, is suggestive. There the rural population is poor. It had a long period of discontent made desperate at times by famine and always made worse by political conditions and agitation. Yet this dense population on a poor soil is undergoing such economic organization as to promise a revolution in method and in efficiency. Cooperation is taking the place of grievance as an Irish exercise and occupation. The difference between a man whose business pays and a man whose business does not pay is immeasurable. In Denmark, too, there is such an admirable system of rural organization, of coöperation, and of instruction that all the world may learn lessons from that country.

This happy condition is within the reach of the rural population of the United States — that over our broad area, most of which is productive and much of which is richly productive, the people shall be taught such methods of work as to get the full scientific results of labor; that the whole industry of tilling the soil, with its kindred and dependent industries, shall be so organized that the producer shall get the profit — that all the benefits which commercial organization and machinery have brought to city life shall be brought also to rural life and that rural occupations may become sufficiently profitable for rural life to become glad.

For all time to come, the majority of the people of the United States will get their living from the soil. Getting a living from the soil is now a scientific and profitable pursuit for those who know best how to do it — those who take advantage of all the new knowledge. As the number of such

persons increases and better and better methods are used, and especially as better and better management is used, the profits and the joys of country life will grow. Organization will take the place of wasteful individual work. The intellectual life will be cultivated. The time dreamed of by poets and philosophers will come — may come — throughout the great fertile stretches of our country; and it would come within a remarkably short time if all the forces now at work for it could be co-ordinated and directed right. A great common movement toward such an end would take rank as the most important work in our land, perhaps the most important in the whole world.

FLIES AS CARRIERS OF DISEASE

TO reduce the deaths by typhoid fever in New York City from 650 to 360 annually, the deaths by diarrhœal diseases from 7,000 to 2,000, and to prevent 50,000 other cases of sickness every year — and to accomplish all this by simple methods of sanitation — is what a committee of the Merchants' Association of New York proposes in a recommendation to Governor Hughes.

The recommendation is based upon a series of exhaustive investigations made last summer into the relation between house-flies and the spread of intestinal diseases. This committee was headed by Mr. Edwin Hatch, Jr., and Mr. J. Pierpont Morgan. Its report, recently published, will be recognized by the medical profession as a contribution of value to the entire country. It shows, for example, that:

"the deaths from intestinal diseases rose above the normal at the same time at which the flies became prevalent; culminated at the same high point; and fell off with slight lag at the time of the gradual falling off of the prevalence of the insects."

Also, that even the secondary prevalence of flies in September is yearly reflected in the death-rate.

But the committee does not base its conclusions merely on these observations. Fly-traps were then placed all over the city and the flies collected daily were counted and examined. Most of them were found to be covered with bacteria of various kinds. On one specimen were counted more than 100,000 bacteria; "he had been walking over human excreta and was on his way to the nearest milk-pitcher."

The transmission of typhoid fever by means of flies is not a new discovery, but the mosquito's part in spreading malaria has received more attention from the general public. Since there are approximately 150 deaths in New York City from intestinal diseases to every death from malaria, the committee suggests that "the ominous buzzing in the pantry is more to be dreaded than the high-keyed note of the mosquito in the sleeping-room above."

SHALL ONE BUY STOCKS BECAUSE THEY ARE LOW?

THE financial record of 1907 is probably the strongest possible argument in favor of the most conservative, as opposed to the more speculative, forms of investment. Although last year saw disaster and panic, there was no default in the interest of bonds issued by important railroads or industrials and properly secured by mortgages.

The first week or so of 1908 saw the Seaboard Air Line in the hands of receivers, it is true, but the indications are that even in that case the old bonds will get their regular interest as it falls due.

The mere recital of this fact, emphasized as it has been by the many dividends omitted, by dividends on stocks paid in scrip, by default in many forms, should answer the oft-repeated question: "Why should I buy bonds that give me only 5 per cent. when I can get good stocks to yield 7 per cent.?"

The general lesson of 1907 appears to be that the man or the woman who desires absolute safety, and must have that above all chance of gain, will find his or her proper field for investment among mortgage bonds, mortgages, and other evidences of debt well secured. The record, analyzed in some detail, contains

direct warnings in great volume against the purchase of mining or industrial stocks as permanent investments. Even the stocks of railroads and traction companies are not immune from danger. If one may draw a conclusion with regard to such stocks from the data in hand, the conclusion would be that the really conservative investor will take them only in relatively small quantities.

It is a hard lesson, for the higher profits of stocks are always alluring, and the return from good bonds or mortgages is frequently very low. To-day this excuse has lost its force to some extent, for more than 5 per cent. on bonds may be obtained with perfect safety; but, in general, the investor frets because he cannot get more than 4½ or 5 per cent., while his neighbor talks to him of the 10, 20, sometimes 100 per cent. profit made in a single year in mining stocks.

Yet, during the ten weeks ending December 15, 1907, more than a dozen large mining companies either reduced or omitted dividends. The list includes such companies as the Anaconda and the Amalgamated Copper. In the purely industrial field, five companies of importance either reduced or omitted dividends, or went into bankruptcy. Three large public utility concerns stopped dividends. The Western Union and the Atlantic Coast Line Railroad declared dividends in scrip. The Chicago Great Western Railroad ceased paying interest on its debenture bonds.

Individually, the most distressing incidents of the period were the declines in Western Union and the Atlantic Coast Line, and the temporary collapse of the Westinghouse Electric. Western Union stock has been considered for a quarter of a century one of the standard stocks. It has been "planted" safely in the little strong boxes of widows and orphans from ocean to ocean. Relatively, it is the most widely distributed industrial stock in the country, and is held by more of the "innocent-investor" class than any other industrial, or perhaps any other stock. The circumstances that have hit it so hard come close to being a national disaster.

The Atlantic Coast Line is one of the good railroads of the South. Hundreds of men and women who live in its territory have held it as a safe, sound, conservative investment. The effect of its decline in revenues and in prestige is acutely felt in the same section of the country that was so severely hurt by the Seaboard Air Line collapse of four years ago, and by the cutting of the Southern Railway preferred dividend last summer. The Southern investor, it may be remarked in passing, is paying a good stiff price for his anti-railroad crusade.

A year ago, the Westinghouse Electric stood near the head of the list of our manufacturing stocks. Investors bought it as "gilt-edge" at prices near $180 per share. It seemed beyond the reach of disaster in any form. Its statements of earnings were alluring. Its business crowded its enormous plants. Its 10 per cent. dividends invited the most implicit confidence. To-day, as I write, the stock is selling below $50 per share, and the company rests in the hands of receivers. In the long run, it will come back; but many a small holder of its stock passed a sad Christmas in contemplation of his depleted fortune.

The story of the mining stocks and the method of their distribution is no new thing to the reader of THE WORLD'S WORK. Just a year ago, in the midst of a wild boom in the very stocks that to-day lie in disaster, I wrote this paragraph, and published it in the face of the severest criticism:

"The small investor should by no means purchase mining stocks. These stocks are to be regarded as utterly unfit for the investment of savings. We shall make no exception to this statement. It applies with almost equal vital significance to the stocks of the Anaconda, Calumet & Hecla, and Amalgamated Copper as to the thousand new glittering, alluring prospects that parade themselves day by day in the advertising columns of the press."

Of the three representative stocks selected for illustration in this statement, the Anaconda and the Amalgamated have reduced dividends, and their stocks have suffered a collapse almost unparalleled in financial history.

It would be a sad thing to go through the state of Massachusetts to day and reckon up the number of old men and old women who are living in poverty this year because the copper companies have cut their dividends, or omitted them entirely. Boston is the centre of the copper-stock industry. Massachusetts is the market. One may not guess how many little homes are mortgaged this year to make up the deficiency in "copper" dividends, for more than half of the $12,000,000 or so of reduction in dividends during that

ten-weeks period fell upon the holders of copper stocks.

Recently this magazine received a letter from a woman who had lost money in a bank failure. She wanted to "make it up," by buying some stock that would "double in a year," as her neighbor had once done. She wanted the name of the stock. The editor declined to guess, on the ground that if the guess turned out badly he would have done her an irreparable injury; while, if it turned out well, he would have given to her the belief that such investment is fit for such an investor — a touch of the gambling mania, perhaps. In the end, the result could be only bad. Almost inevitably it would ultimately result in additional loss, probably in ruin.

Now, there are occasions upon which the editor will give advice concerning stock investments, even for the most conservative. Sometimes, it is absolutely essential to the investor that he or she get 7 per cent., or an even larger return, on the investment. In such a case caution must be urged; yet even the widow or the orphan may be advised to purchase some good, quiet, preferred stock of an industrial, or the stock of a railroad. There are industrials that have been seasoned by the storms of past years. There are railroad stocks to-day to yield close to 7 per cent. with what one must call safety. Yet, in selecting such investments, any man may make a mistake. Danger is part of the price one must pay for larger revenue.

In buying bonds, one must also exercise the nicest discrimination. It has frequently been urged upon the readers of these articles that in the purchase of street railway, public utility, telephone, and industrial bonds they rely only upon the very best of banking houses. It is timely to repeat that warning. Indiscriminate purchases of such bonds will lead to loss, almost inevitably. There are hundreds of street railway and power company and public utility bonds now offered throughout the country, frequently in the communities where the companies operate, at high prices, and under circumstances that in many cases come close to swindling. Local bankers, far from being a safeguard to prevent such gutting of the investment community, are too apt to aid and abet the process, tempted sometimes by accounts opened; lured, I regret to say, too often by profits to be made by themselves through the flotation of the bonds or stocks.

The nicest care must be used, particularly to-day, when danger lurks in the securities of every company not fully equipped to withstand a business depression. Buy telephone bonds from specialists in telephone bonds, firms, at that, of established reputation, wide experience, and known integrity. Buy traction bonds in the same way, and only in that way. You may find your banker in New York, Boston, Philadelphia, Pittsburgh, Cleveland, St. Louis, Chicago — even in smaller cities. But be sure you find him. You cannot get certainty and security in small traction, telephone, or industrial bonds without him.

As to dividends declared in scrip, one must reserve judgment until normal money conditions return. To pay one dividend in this way, merely because the actual cash is unobtainable by reason of extraordinary conditions, is not at all open to criticism. To continue to pay scrip dividends would be an investment crime. If the Atlantic Coast Line cannot pay cash dividends at the time of the next declaration, it should not pay any dividend, even though by such omission its bonds would cease to be legal investments for Connecticut savings banks. Practically the same applies to the Western Union, the Erie Railroad, and others. Regular dividends should be in cash or nothing.

If the study of industrial stocks over this period does not persuade the average reader to the extremest caution in making investments in industrial stocks, even the best of them, nothing in this world will persuade him except actual experience, and the unfortunate thing about experience is that when a man has had it he generally has no money to profit by it.

The contrary, the balancing fact if one may call it so, is the fact that the good securities bought by the general public during the three months of disturbance will almost certainly show increases in value as time goes on. The reports tell us that the number of stockholders in the standard railroads has increased by 50 per cent. or more in the past year. The number of bondholders is not reported, but here, too, there has been large increase. More and more, as the natural market forces have been allowed to work out their natural ends, the public has come to own the corporations. That is a good thing, both for the people and the corporations.

PEKING UNIVERSITY—AN AMERICAN "LIGHT OF ASIA"

It enrolled last year about as many students as Amherst or West Point

M. E. Bd.

AMERICAN TEACHING AROUND THE WORLD

THE VAST INTELLECTUAL EMPIRE OF GOVERNMENT TEACHERS AND PROTESTANT MISSIONARIES WORKING UNDER MANY FLAGS

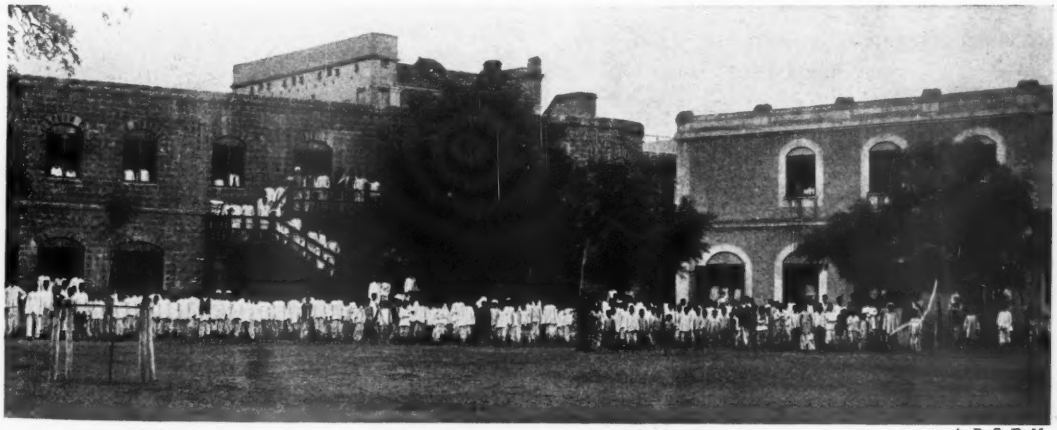
BY

EDGAR ALLEN FORBES

THE poet who loudest and best sings the glories of the English has outlined their over-seas policy in this way:

"They terribly carpet the earth with dead, and before their cannon cool
They walk unarmed by twos and threes to call the living to school."

It was Egypt that Mr. Kipling had in mind, and the founding of Gordon College at Khartum was his inspiration. He did not consider it worth while to say that Kitchener's army (which did the "carpeting") marched past more than a hundred American schools before it reached the junction of the Blue and the White Nile. United States soldiers have never strewn Egypt with dead, but our mission teachers have called more of its living to



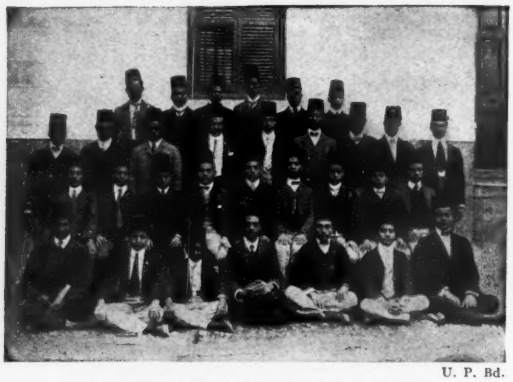
A. B. C. F. M.

AFTERNOON PUPILS OF THE PETIT INDUSTRIAL SCHOOL, MARATHI, INDIA

Built by a Parsee but directed by American Congregationalists. Its industrial course was introduced by a former student of the Chicago Manual Training School

U. P. Bd.

THE FACULTY OF ASSIUT COLLEGE, EGYPT



U. P. Bd.

THE FRESHMAN CLASS, ASSIUT COLLEGE

school than even Lord Cromer did in his long and constructive reign. When an American poet comes whose soul shall be moved by great achievements, we also shall have some brave singing and the American teacher as an educational empire-builder will be one of his themes. While we await his coming, hear the story in prose.

If a man in quest of material for an American educational exhibit were to sail out of San Francisco Bay with a phonograph recorder, he would come up on the other side at Sandy Hook with a polyglot collection of records that would give the people of the United States a new conception of their part in the world's advance toward light. His audience might hear a spelling-class recite in the tuneful Hawaiian tongue or listen to Moros, Tagalogs, and Igorrotes reading from the same McGuffey's Reader. A change of records might bring the sound of little Japanese reciting geography, or of Chinese repeating the multiplication table in a dozen dialects. Another record would tell in quaint Siamese the difference

A. B. C. F. M.

THE GREEK FOOTBALL TEAM OF AN AMERICAN COLLEGE IN TURKEY

At Marsovan, 350 miles east of Constantinople

between a transitive and an intransitive verb, or conjugate the verb "to be" in any one of the languages of India. One might hear a professor from Pennsylvania lecturing on anatomy to a class of young men in the ancient kingdom of Darius; or a young woman from Massachusetts explaining the mysteries of an eclipse to a group of girls in Constantinople; or a Princeton man telling in Arabic the relation between a major and a minor premise. Manual training teachers would recognize the sound of hammer and plane from the headwaters of the Nile and of the Euphrates, the ring of an anvil on the southern slopes of the Himalayas, or the hum of a circular saw on the Congo or the Niger. And, when the audience had listened to all this and "My Country, 'tis of Thee" in Esquimaux and in Spanish, the exhibit of American teaching would have only begun.

SCHOOLS AT AMERICAN OUTPOSTS

In the September number of this magazine it was shown that in nine years the Americans have not only more than doubled the number of schools in Porto Rico: we have pushed out the Porto Rican's horizon and opened up new vistas of life. We have not made such a transformation in the Hawaiians, for the simple reason that when they came under the American flag their percentage of literacy was almost as good as ours. They were a nation of educated men and women, with colleges and seminaries and industrial schools, and with primary schools scattered all over the Hawaiian group. But all this machinery of civilization had been installed and kept in motion for three-quarters of a century by American teachers, after all; for the American Board of Missions began its work there in 1820. The public school at Lahainaluna began as a mission school more than seventy years ago, and most of the higher institutions—such as Oahu College, the oldest college west of the Rockies—had similar beginnings. One American woman, Miss Ogden, trained more than a thousand Hawaiian girls for lives of usefulness, and did her work

THE PUBLIC SCHOOL AT KIVALINA, ALASKA

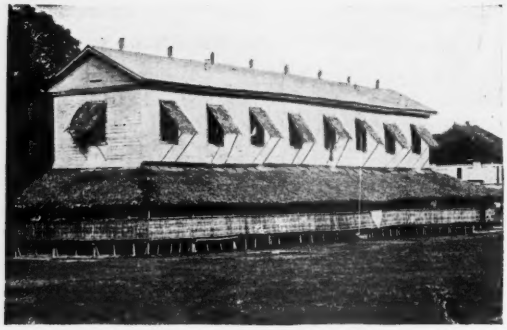
U. P. Bd.

AN AMERICAN MISSION SCHOOL IN THE ANGLO-EGYPTIAN SUDAN

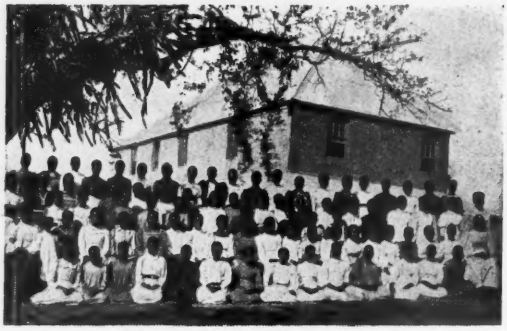
At Doleib Hill, on the Sobat River, 500 miles beyond Khartum

POINT BARROW, ON THE ARCTIC CIRCLE

OPPOSITE SHEPHEARD'S HOTEL, CAIRO

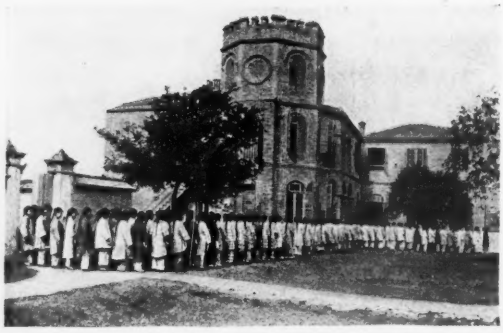


A PROVINCIAL SCHOOL IN THE PHILIPPINES



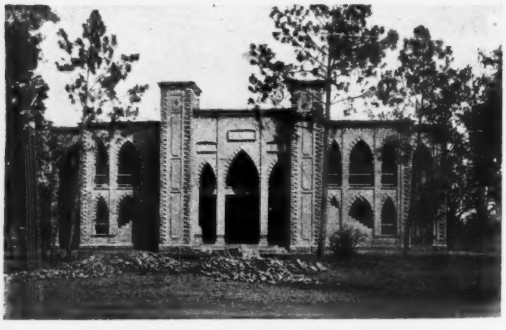
A GIRLS' SCHOOL IN SOUTH AFRICA

A HIGH SCHOOL IN HONOLULU



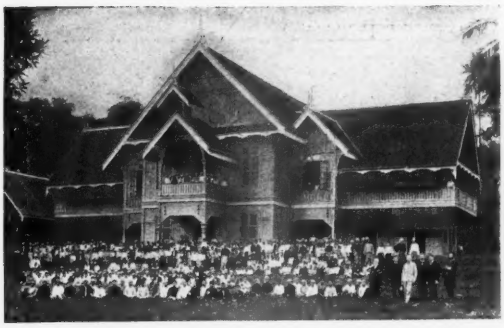
A GIRLS' COLLEGE IN FOOCHOW, CHINA

BAPTIST SEMINARY, HAMBURG, GERMANY

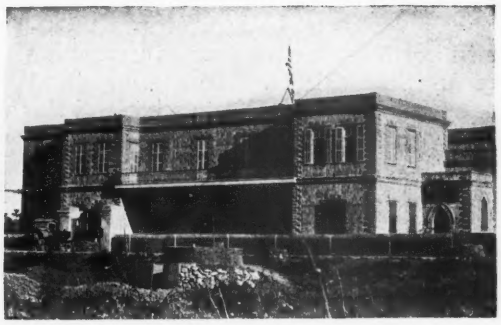


GORDON MISSION COLLEGE, INDIA

AMERICAN SCHOOLS AROUND THE WORLD

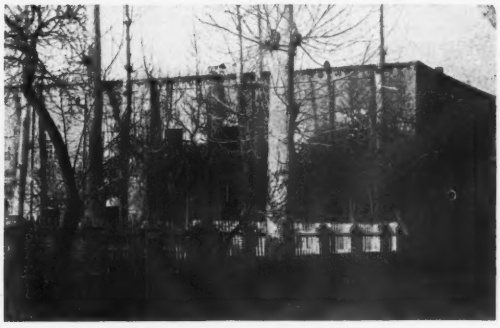


RANGOON BAPTIST COLLEGE, BURMA



ON THE SITE OF ANCIENT THEBES

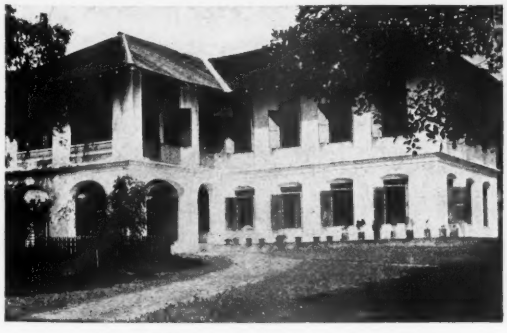
AT TARSUS, THE BIRTHPLACE OF PAUL



URUMIA COLLEGE, IN PERSIA

AT THE HEADWATERS OF THE EUPHRATES

A PRESBYTERIAN SCHOOL IN LAOS



"BY THE OLD MOULMEIN PAGODA"

A GIRLS' SCHOOL, BEIRUT, SYRIA

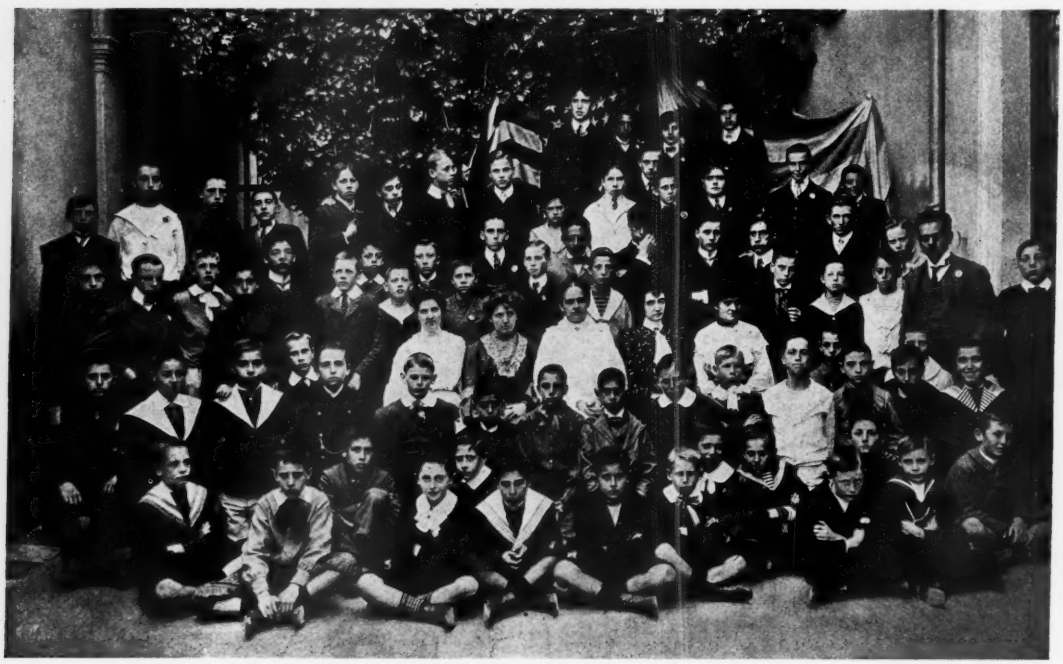
AMERICAN SCHOOLS AROUND THE WORLD

as earnestly as if she had foreseen that these girls would become the mothers of a generation of American citizens.

In the public and private schools of Hawaii to-day there are more than 20,000 children—Hawaiians, Portuguese, Japanese, Chinese, Americans, Porto Ricans, Germans, British, Scandinavians, and other nationalities. There are two school buildings that cost nearly $50,000 each and an agricultural and industrial college is projected. That the training is practical and progressive under the American régime is shown by the Royal School in Honolulu. It is organized as a "school city," with a mayor, a board of aldermen, and regular municipal departments. Police court is held daily, with Toyoichi Nakamura as judge and Sam Smith as county-attorney. Sheriff Henry Aki reports the following arrests during one week in September: Fighting, 6; disobedience, 3; truancy, 2; playing in line, 11; stealing, 2; smoking, 2. The reports of the "chief sanitary inspector" and of the "superintendent of public works" seem to show that the offenders worked out their sentences on what corresponds to the municipal rock-pile.

Alaska is another territory where the missionary teacher preceded the public school. The northernmost school in America—Point Barrow, on the Arctic Ocean—is the outgrowth of a mission station. Dr. Sheldon Jackson, for more than twenty years in charge of education in Alaska, is a Presbyterian minister; and the superintendent of the northern schools, Mr. W. T. Lopp, whose district has a thousand miles of Arctic coast-line, was formerly a missionary. He has a medal of honor from Congress in recognition of conspicuous heroism.

When Alaska was purchased from Russia, in 1867, the natives around Point Barrow were so wild and lawless that shipwrecked sailors preferred to trust the mercy of the frozen sea. In the 'eighties an American army officer in charge of a polar station at Barrow found it expedient to build a turret and fortify it with cannon. But the mission teachers brought about such a transformation that when eight whaling ships were wrecked off the coast in the 'nineties, the rescue of 400 American seamen was made possible by a generous sacrifice on the part of these natives, who gave up their only reindeer herd. Irrigating streams are not more vital to the Western deserts than



M. E. Bd.

ON THE EASTERN COAST OF SOUTH AMERICA
Pupils and teachers of Montevideo Academy, Uruguay

are reindeer to northern Alaska, yet Congress could not see this until Dr. Jackson had gone out among his friends and raised the $2,000 necessary to make the first experiment. Curiously enough, reindeer breeding is now a branch of the Bureau of Education, and the reindeer is the main dependence of the natives for food and transportation.

During the year ended last June, fifty-two public and many mission schools were maintained in Alaska, industrial training receiving

M. E. Bd.

ON THE WESTERN COAST OF SOUTH AMERICA

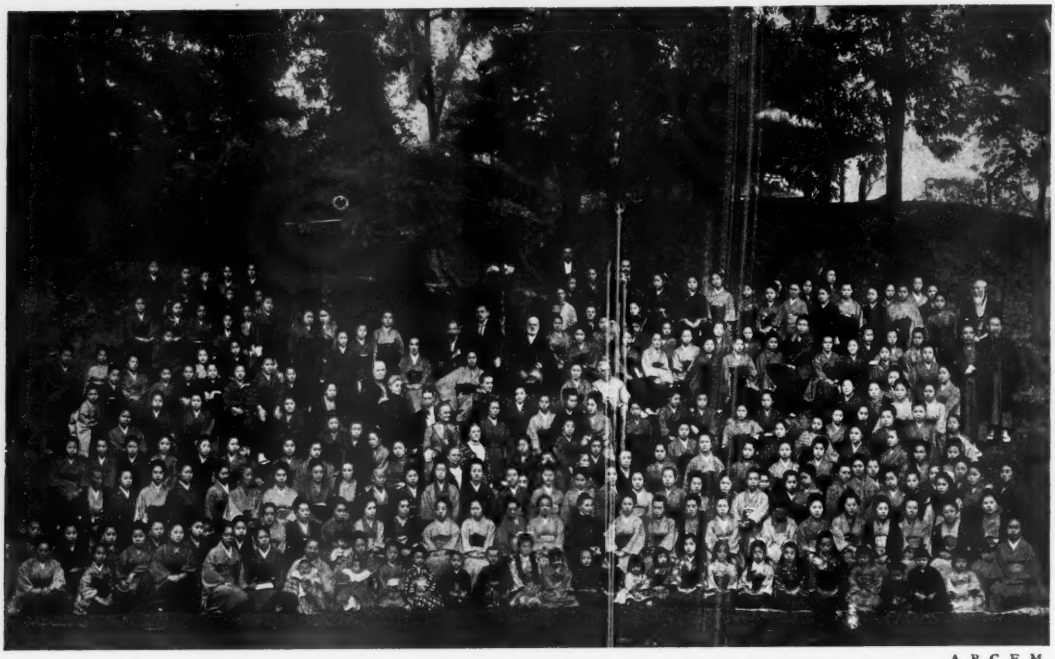
Girls' Department of Iquique English College, in Chile

the emphasis. For the present year the appropriation has been doubled. The new schoolhouses now being erected in isolated districts have a new feature—a hospital ward in which the teacher will be physician and nurse. There is probably no region anywhere in the world where such a large demand is made upon the devotion and courage and physical endurance of school-teachers.

EDUCATING FILIPINOS OUT OF SAVAGERY

The Philippines brought to us a series of educational problems entirely different from those of any other new possession. Statesmen and others who are disgruntled over American rule will find the annual school reports little suited for their campaign documents. The thundering echoes of Manila Bay had scarcely died away before our army officers had the Manila school-bells ringing; and before the machinery of insular government was in place, Dr. F. W. Atkinson had laid out a system of public instruction such as no colony ever had before. To organize and conduct the schools until a supply of native teachers could be trained, and then to act as supervisors of districts, he made an appeal for the best teachers that the United States could furnish. The transport *Thomas* sailed in the summer of 1901 with 500 trained young men and women. Never in the history of colonial government was such another cargo sent to sea.

These and the other American teachers did a peculiarly difficult work and did it so well that a commanding-general estimated the restraining influence of fifty teachers in a



A. B. C. F. M.

JAPANESE GIRLS EDUCATED BY AMERICANS AT KOBÉ COLLEGE

Of 164 graduates up to 1900, 100 had volunteered for Christian service among their own people. The College has helped to raise the status of women throughout Japan

Presb. Bd.

THE AMERICAN SCHOOL FOR BOYS, TEHERAN, PERSIA

The young men educated in the mission schools have had a large part in the awakening of the decadent empire. Many of them have become physicians, teachers, officials, and leaders in business

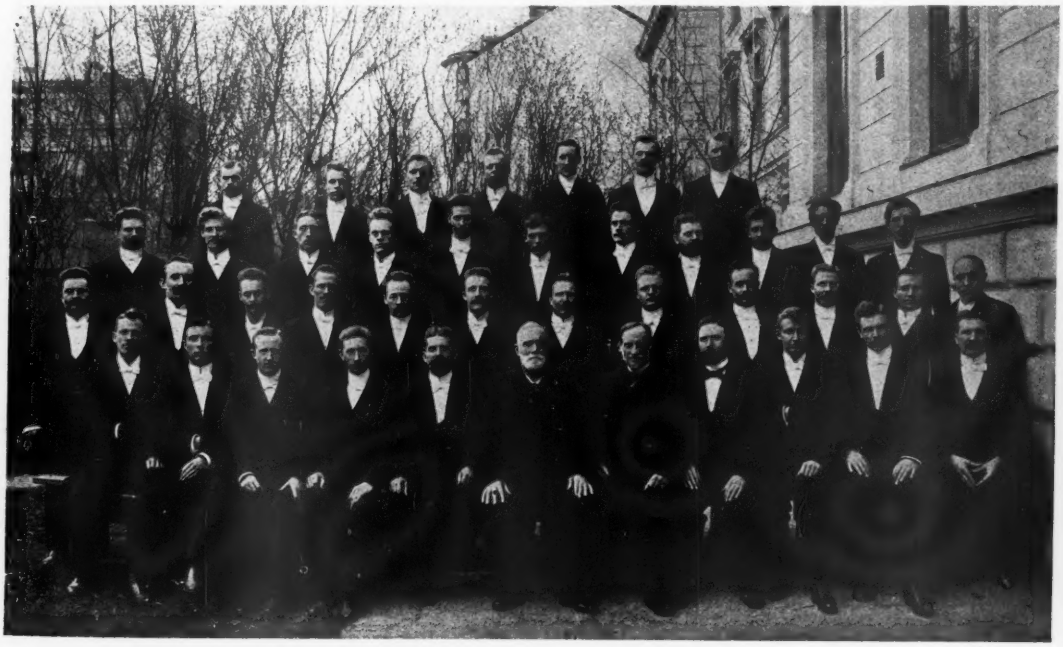
A. B. C. F. M.

LAYING THE CORNER-STONE OF AN AMERICAN COLLEGE, MARATHI, INDIA

A. B. M. U.

THE ARRIVAL OF A NEW STUDENT AT DUNCAN BAPTIST ACADEMY, TOKIO, JAPAN

disaffected province to be equal to that of a regiment of troops. They were much more than teachers: they were the exponents of Western civilization. Scattered by ones and twos throughout the archipelago—among Tagalogs, Igorrotes, Negritos, and Moros—they lived in huts, ate native food, and braved the ladrone's spear and the pestilence that walked in darkness. In some districts they were postmasters and foresters and weather observers as well as teachers. When cholera closed his school, the teacher became the village health-officer and nurse. When local discontent swelled to the point of revolt, the teacher was



A. B. M. U.

PROFESSORS AND STUDENTS OF BETHEL THEOLOGICAL SEMINARY, STOCKHOLM, SWEDEN

This institution is a part of the educational work of American Baptists

A. B. C. F. M.
CLASS OF 1900, INTERNATIONAL INSTITUTE, MADRID

M. E. Bd.
CLASS OF 1905, GIRLS' SCHOOL, PEKING, CHINA

the tribal counsellor and an unofficial member of the Peace Tribunal.

Briefly told in figures, here is the story of the American teacher in the Philippines. In the early period, from 1901 to 1904, the average expenditure for school purposes was $1,279,680 a year, with many natives teaching without pay. Furniture and books by the

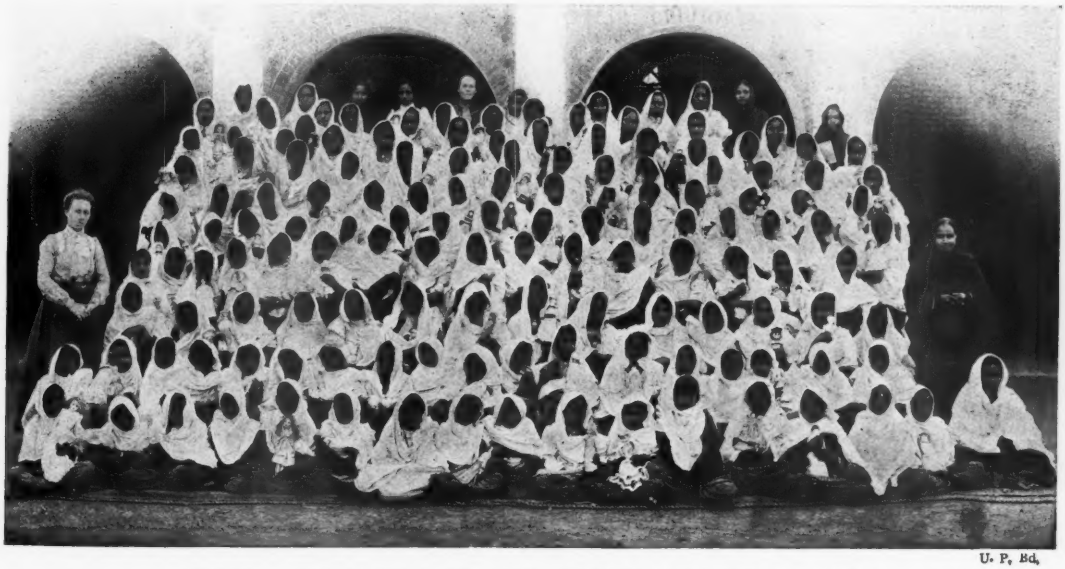
A. B. C. F. M.
CLASS OF 1904, AMERICAN COLLEGE FOR GIRLS, CONSTANTINOPLE
One graduate of this college is the only Mohammedan woman in the Turkish Empire with the degree of B. A.

shipload were sent out from the United States and distributed among the schools—22,500 desks and 268,000 textbooks and 350,000 slate pencils in a single year, 1902. During that year 806 American teachers and 2,625 natives were teaching in 1,835 schools. The report for the following year showed an attendance of more than 180,000 children in the day schools alone. In March, 1905, it reached half a million. At the present time, without any increase in the American force, about 5,000 native teachers are at work. The Insular Normal School, with a large faculty and a fine equipment, is turning out trained teachers at a rate that keeps the statistician busy revising his figures. The higher industrial schools are doing a work just as remarkable and as far-reaching in influence. No attempt is made to give the figures, for agricultural and manual training is being introduced into even the primary schools so rapidly that figures are out of date when they come from the cable. As a part of this great campaign, which will in a few years lift the Filipino out of the ranks of the savage tribes, scores of the most capable young men and women are being educated in American colleges. The doings of the United States sailor and soldier in the Philippines once caused us as a nation to turn handsprings of delight; it is now the teacher's turn.

Even the Island of Guam, one of the loneliest outposts in the Pacific, has made the acquaintance of the school-teacher as well as of the marine. Too small for a regular governor—it is only thirty-two miles long by seven wide—it is in charge of an officer of the navy. Up to 1904, Guam was practically without schools. On May 16th of that year Commander Dyer arrived; on June 13th he "opened school" with a marine and two clerks as teachers. The report for 1907 shows 1,601 pupils, with agricultural, industrial, and night schools. Since nobody ever goes to Guam except on detailed duty and since few of its people will ever see any other island or country,

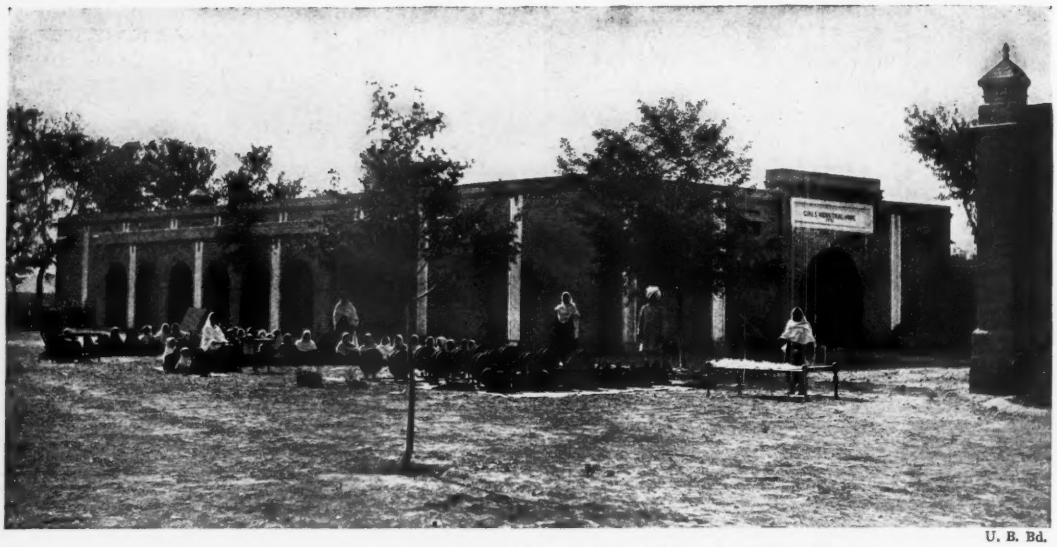
Presb. Bd.

THE MEMORIAL SCHOOL, TABRIZ, PERSIA
Erected by Mrs. Wm. Thaw, of Pittsburgh



U. P. Bd.

AMERICAN EDUCATION FOR THE FUTURE MOTHERS OF INDIA
The Girls' Boarding School at Sialkot, of high-school grade



U. B. Bd.

AN AMERICAN INDUSTRIAL HOME FOR GIRLS, PASRUR INDIA

A cotton-spinning class at work. Most of these girls were brought from the famine district

the teacher's work is directed mainly to the practical branches. But Guam is none the less a part of our educational empire.

So much for the school-teacher in our own possessions. When to this work is added that of more than half a million teachers in the colleges and professional and common schools of the United States, the grand total will represent the American teacher's work under the Stars and Stripes. But that is only a part of the story.

No record of American teaching can pretend

Presb. Bd.

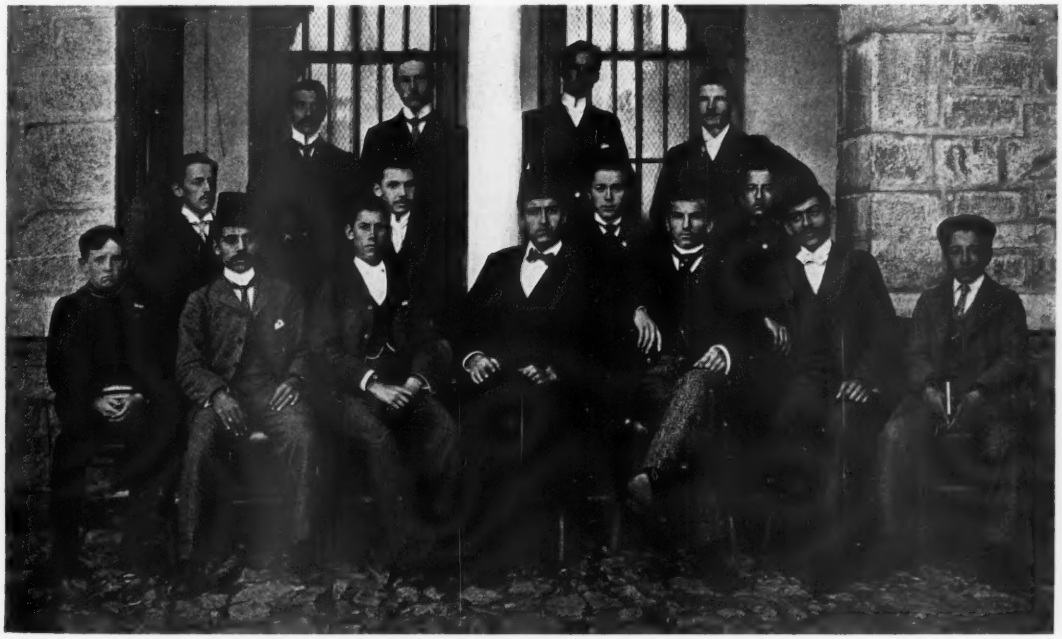
FIELD-DAY AT THE SYRIAN PROTESTANT COLLEGE, BEIRUT

It has 15 buildings, 68 eminent instructors, and nearly 1,000 students. English is the language of instruction

ROBERT COLLEGE, CONSTANTINOPLE, OVERLOOKING THE BOSPHORUS

Founded by Dr. Cyrus Hamlin in 1863, it has led the educational movement of a large part of the Oriental world

to anything like completeness unless it includes the work of American missionaries, for the same kind of foundation teaching is going on throughout Asia, Africa, and the Pacific islands that was done in Alaska and Hawaii a generation ago. The missionary as the herald of a new faith concerns chiefly the churches that send him forth, but his ministry to human suffering and his influence as a world-wide educator concern all who take pride in



STUDENTS OF FIFTEEN NATIONALITIES IN ROBERT COLLEGE

Beginning at the left, front row: American, Egyptian, Scotch, Turkish, Russian, Georgian, Israelite. Second row: Greek, Austrian, Polish, Dalmatian. Third row: Armenian, Canadian, English, Bulgarian

A. B. M. U.

CONGO INDUSTRIAL STUDENTS AND SOME HARDWOOD FURNITURE MADE BY THEM AT IKOKO

American achievement. The missionary teacher is not represented in the National Teachers' Association, nor are his reports to be found in the bulky volumes annually issued from Washington, yet no teachers anywhere are doing more to "reclaim by culture vast areas in the mental life of the world." Some of them—like Dr. W. A. P. Martin, of Peking—have witnessed the transformation of an empire, partly as the result of their own work.

If the different flags that float over mission schools taught by men and women from the United States were brought together, there would be enough to "dress" a battleship. The nearest approach to a complete summary of these schools is that compiled in 1902 by Dr. James S. Dennis. It shows that more than a million pupils are yearly enrolled in Protestant schools in foreign lands, and that the number of American schools is almost as great as that of all the rest of the world combined.

In the Chinese Empire, the American's call

KIND OF SCHOOL	SUPPORTED BY	
	UNITED STATES	OTHER COUNTRIES
Universities and colleges	47	47
Theological and training schools	152	223
High schools and seminaries	370	509
Industrial institutions	58	121
Medical colleges and nurses' schools	30	37
Kindergarten schools	93	29
Elementary and day schools	8,000	10,000

**The Baptist Missionary Magazine* for March, 1906, reports 8,638 American schools, as follows: American Baptists, 1,753; Southern Baptists, 79; American Board, 1,633; Methodists, 1,029; Southern Methodists, 112; Presbyterians, 932; Southern Presbyterians, 51; Disciples of Christ, 36.

A. B. M. U.

MISSIONARIES OF THE UPPER CONGO PUSHING FARTHER INTO THE INTERIOR

The American Baptist steamer *Goodwill* leaving Bopoto with workers to establish a new station

to school was first heard nearly three-quarters of a century ago. Samuel R. Brown, of Monson, Mass.—who entered Yale with six and a half cents and worked his way through—opened a school at Macao and transferred it to Hong Kong as soon as foreigners were permitted to enter "the open door." On his return to America he brought three of his schoolboys, the first Chinese to be educated in this country. To what degree the "awakening of China"—so often credited to the cannon of the little brown men on the other side of the Yellow Sea—is in reality due to the American school-bell may be inferred from the following compact facts. In China there are at least 175 missionary institutions for advanced education. Of those enumerated by Dr. Dennis, the Americans conduct all of the thirteen colleges and universities, two-thirds of about seventy theological and training schools, six of the seven industrial schools, five of the six kindergarten schools, and more than half of the thirty-two medical colleges.

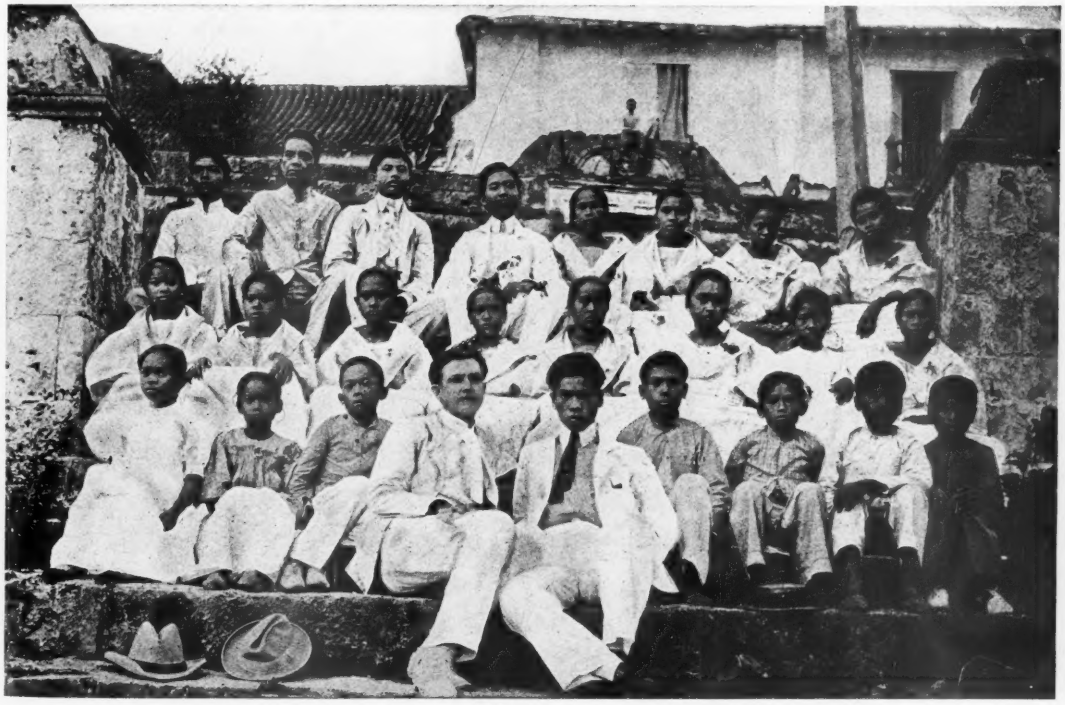
Peking University, the pride and glory of American Methodists, is one of the best educational institutions east of Suez. Since 1890 it has been virtually independent but it is

U. P. Bd.

AN AMERICAN SCHOOL ON A MUD-WALL IN INDIA

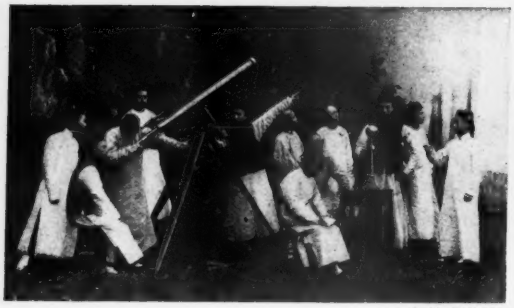
This village teacher has conducted the school for seven years, on a salary of $32 a year

incorporated under the laws of New York. About 500 students are annually enrolled in its five departments, most of them being students from the north of China. Its medical course —five years of nine months each—is more thorough than that of most of the medical schools of the United States. Nanking University, the Anglo-Chinese College at Foo-

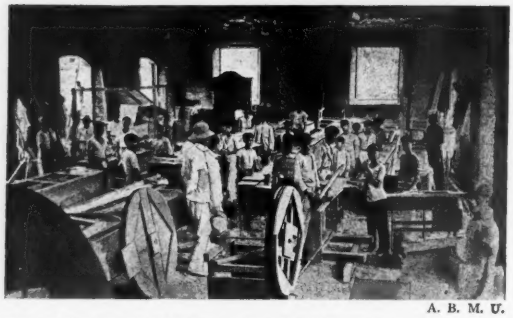


PROBABLY THE YOUNGEST AMERICAN TEACHERS IN SERVICE

All of these teach in the Pagbilaran district in the Philippines. Ten draw salaries; the little fellows teach without pay



A. B. C. F. M.
AN ASTRONOMY CLASS IN CHARGE OF A NATIVE PROFESSOR, FOOCHOW COLLEGE



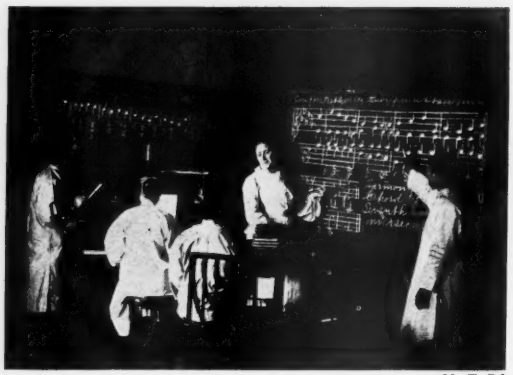
A. B. M. U.
CARPENTRY SHOP, JARO INDUSTRIAL SCHOOL, IN THE PHILIPPINES

chow, Soochow University, and colleges at Chentu and Kiukiang are also supported and directed by the American Methodists.

St. John's College at Shanghai is another university of high rank. Its graduates can enter the leading schools of law, medicine, and divinity in the United States, and those with the B. A. degree can enter the course at Yale that leads to the M. A. and Ph. D. degrees. Since its beginning as a small boarding-school about the middle of last century, it has educated many young men who have become leaders in the business life of the metropolis of China. In connection with its medical department, it conducts one of the best-equipped hospitals in the empire.

In Hangchow, a city in North China as large as Boston and Buffalo combined, the American Presbyterians have a college with about a hundred students. Its Chinese superintendent had charge of the Hangchow exhibits at the St. Louis and Belgian Expositions, yet he serves the college at a salary of $600 a year. Shantung University is another Presbyterian institution, conducted in coöperation with the English Baptists. The collegiate department at Wei Hsien (formerly Tengchow College) reported in 1898 that twelve of its graduates had become professors in the Imperial University at Peking. Christian College at Canton, though an independent organization, coöperates with the Presbyterian Board.

The Congregationalists have three important colleges. At Tung-cho, a city near Peking with a population nearly as large as that of Washington, is North China College, which began in 1867 with two pupils. During the Boxer outbreak, many of its most influential graduates met death; the buildings were demolished down to the last brick and the campus was turned into a cornfield. This was in the summer of 1900, yet the college was ready for students in the fall of the same year. At Foochow College, which has about 150 students, the sons of the rich and of the poor are brought together in class-room and dormitory. The graduating class of 1906 took a long step forward by writing their orations in simple, direct language, instead of using the stilted phraseology common to the literati. The



M. E. Bd.
MUSIC CLASS, NANKING UNIVERSITY, CHINA

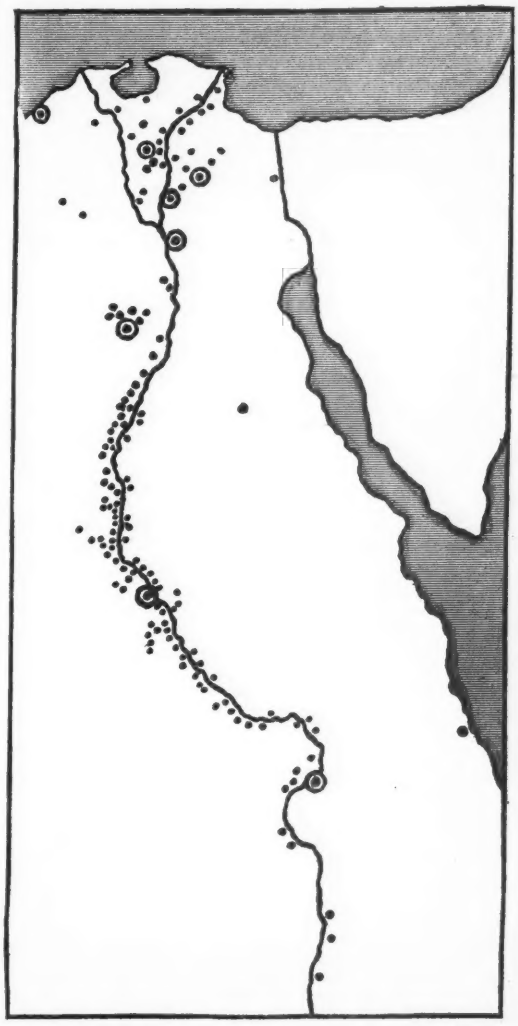
M. E. Bd.
COOKING CLASS, CONCEPCION COLLEGE, CHILE

American Board has also a college for girls in the same city, and many of its graduates have taken courses in medicine and nursing. There is perhaps no other course which now offers to an ambitious Chinese girl such a wide opportunity for usefulness.

These are the principal missionary colleges that have been to China all and more than all that Harvard and Yale and Princeton and Vassar have been to America. Their graduates have gone back to their homes with a new vision, with a new conception of a world stretching away from China in all directions and of a universe of whose vastness the wisest of their fathers never dreamed. But—and it is here that the American's theory differs from that of his English brother—the transformation of barbarism is not wrought by high schools and colleges but by the common school. The elementary training of the 42,000 children taught yearly by the missionaries in China from Hong Kong to the Chinese wall and from Shanghai to the border of Tibet is a constructive influence that reaches farther and deeper than the education of the more than 5,000 students in the missionary colleges. To the fertile soil of the most populous country in the world, the American has transplanted the idea that education is for all the people—coolie as well as mandarin, girl as well as boy. In another generation, perhaps, the leaders of China will have forgotten that their nation ever thought otherwise

Japan has already forgotten it. Japanese instructors are in charge of many of the new government schools of China, and Japanese schools are furnishing Western learning to more than 15,000 visiting Chinese students. Yet it was an American, Dr. David Murray, to whom was committed the task of making Japan a land of universal education when the Mikado issued his edict to the effect "that there may not be a village with an ignorant family, or a family with an ignorant member." The conspicuous service rendered by many American professors in Japanese colleges is well known, but the humbler part which the American missionary teacher had in the regeneration of Japan is often overlooked.

Take, for example, the Anglo-Japanese College of the Methodists, located at Tokyo. A list of its graduates who in 1900 were helping to make the new Japan included five professors in the Imperial University, five physicians, six editors, fifteen army and navy officers, twenty-one ministers, twenty-three government officials, fifty-six teachers, and many others in professional pursuits. The Doshisha, a great Japanese university founded at Tokyo by the Rev. Dr. Neesima, has been from the beginning (except in name) an institution of the American



AMERICAN SCHOOLS ON THE NILE THAT HELPED LORD CROMER TO MAKE A NEW EGYPT

The dots represent mission schools; the circles show high schools and colleges. Assiut is the centre of this educational work

Board. It now has more than fifty instructors, most of them Japanese, and more than 5,000 students have received instruction within its walls. Among its graduates are 161 teachers, 148 merchants, 93 ministers, 34 bankers, 19 journalists, and 28 government officials. Of 148 graduates from the girls' department, 23 are

teachers and 108 subsequently graduated from schools for nurses. Kobé College for Women, with six American and twelve Japanese instructors and seven buildings, is another American Board school. Of the group of graduates shown in the illustration on page 9858, practically every one has become an uplifting influence in her community and an enrichment to the life of the empire. The Episcopalians have a college in Tokyo, the Reformed Church has one at Nagasaki and another at Sendai, the Methodists have three—Tokyo, Nagoya, and Kobé—and the Presbyterians conduct a college in Tokyo in conjunction with the Reformed Church.

All of the missionary colleges and universities in Japan listed by Dr. Dennis in 1902 were American institutions, and there are nearly a hundred other American schools above the grade of day schools. The importance of the educational work done by men and women from the United States is shown by a statement made in 1903 by Dr. W. E. Griffis, an authority on things Japanese: "Nine-tenths of the modern educated men and women of Japan before 1890, and a majority of those in influence and office to-day, received their first instruction from American missionaries."

The first school for higher education in Korea was established by the Methodists at Seoul in 1886. The emperor gave it a name which means "Hall for Rearing Useful Men." The Presbyterians have an excellent school at Pyeng Yang, and these two denominations are now joining their forces throughout the country. The Methodist Board reported in 1907, 2 high schools and 54 elementary schools, with 1,600 pupils; the Presbyterian Board now reports more than 8,000 pupils.

AMERICANS IN SOUTHERN ASIA

Between China and Burma lies Siam, where the American Presbyterians have done exceptionally good work. The relation between the missionaries and the Government has probably been more intimate than in any other country, partly because the father of the present king was tutored by a missionary of the American Board. The superintendent of public instruction, who is also principal of the Royal College, is a Presbyterian missionary, which is also true of the superintendent of the Royal Hospital and of the surgeon-general of the navy. The American high schools for boys and for girls in Bangkok are centres of wide usefulness. Half of the pupils in the girls' school are from the nobility, five of them being princesses. The governor of the province in which Bangkok is situated is a graduate of the boys' school, and it is said that there is scarcely a business house in Bangkok in which one of its graduates is not to be found. One of the Siamese commissioners told the American teachers that he would take at sight for Government service all the boys that they could educate.

Among the Laos people farther north, the Presbyterians are practically the only educational influence. In addition to about twenty-five day schools, they have an important training school at Cheng-Mai ("a month and a half by boat" north of Bangkok) and an industrial school at Lakawn, several days' travel beyond Cheng-Mai. The Baptists are busily at work among other races in the same region.

West of Siam is Burma, the largest province of India, with forty distinct races dwelling in a territory as large as New England, the Middle States, Ohio, and Indiana combined. This field is occupied principally by the Baptists, with about 700 schools of all grades. Rangoon Baptist College, with more than a thousand pupils and with a constituency of 638 mission schools, is affiliated with the University of Calcutta. This college is one of the strongest forces for good in that part of the British Empire. One of its graduates is head-master of the Burman Boys' School at Moulmein, and the first Burman girl to take university work is from the same college. One of the brightest graduates of a smaller mission school was lost sight of by her teachers for several years. Eventually, while on a tour through the jungle, they found her in an obscure village with a school of her own. A feature of the mission training given to the Karens (one of the low-caste peoples) is voice culture. A traveler from Boston heard "The Messiah" sung by a Karen chorus and declared that their rendition of the oratorio was almost equal to that of the Handel and Haydn Society.

In Assam, a province as large as the state of New York, bordering on Tibet, the American Baptists have nearly 200 schools and more than 4,000 pupils. One of these highland boys was brought to the United States and placed in Syracuse University. After his entrance examination a professor said that the young man from the Garo Hills knew more Greek than some of the students that had come

from Chicago after three or four years' study of the language.

In the other provinces of India the same kind of educational work has long been in progress. The mission schools of all the Protestant boards are teaching more than a million pupils every year—about one-fourth as many as are in all the Government schools—and the Americans have a large share in the work. England's educational policy in this part of its empire is not a theme for poets. The importance of American teaching will be seen when it is remembered that in 1901, after a long period of British rule, the census disclosed an illiterate population of about 277 millions. Of 17 million girls of school age, only about 400,000 were in school.

The American missionaries are conducting in India about ten colleges, thirty-five training schools, more than fifty high schools and seminaries, three medical colleges, fifteen industrial schools, and about the same number of kindergartens. Yet in a sixteen-page pamphlet on "Education in India" issued by the United States Bureau of Education, there is not a single reference to any of them. But Lord Curzon and other British officials in India have recognized the importance of the work. The Governor-General of Bengal said publicly that he had found after investigating that the best boys among the candidates for government services came from the mission schools.

The Methodists have a boys' college at Calcutta and two colleges at Lucknow. The institution for girls, which is affiliated with Allahabad University, is said to be the first Christian college for women founded in Asia. The Baptists have an excellent college at Ongole, the Lutherans at Guntur, and the Reformed Church at Vellore. Gordon Mission College, a United Presbyterian institution up in the Punjab, has about 1,200 boys in all departments. At Madura, which was a capital city in the days of Xenophon and which is now the second city in southern India, the American Board college has trained 300 teachers and preachers; its graduates are instructors in twelve Indian colleges. Forman Christian College, conducted by the Presbyterians at Lahore, has about 400 students. A great many of the smaller schools and seminaries scattered over the empire would rank as "colleges" in the United States. Jaffna College, on the island of Ceylon, was founded by Americans so long ago as 1824.

The training in the industrial schools is of a high order. The Baptists, for instance, have a machine-shop at Bassein in which fifteen steel steamers have been built. The Petit Industrial School of the American Board at Ahmednagar has advanced courses in carpentry, rug-making, hammered metal work, and many other hand-crafts. One of its carpets won the gold medal at the largest industrial exhibition ever held in India. It represented the work of ten small boys for more than a year, yet not a flaw was found in it. The fame of the graduates of this school became so great that in 1898 a company was organized in London for the sole purpose of employing boys and girls trained in this school.

AMERICANS IN WESTERN ASIA

In Persia the missionary education is chiefly in the hands of the American Presbyterians with Urumia College as a centre. This institution was started in a cellar in 1836. Fiske Seminary, also at Urumia, is the leading school for girls. All in all, the Presbyterians have about 150 schools in Persia, with important boarding schools in Teheran, Tabriz, and Hamadan.

On the western side of Asia are many American colleges, some of which have an international reputation. Robert College, Constantinople, occupies twenty-three acres of American territory overlooking the Bosphorus, near the site of the bridge over which Darius led the Persian army into Scythia, and facing the castle built by Mohammed the Conqueror in the year that Columbus discovered America. Beside the college walls run the telegraph wires to Bagdad and India. The college was founded during our Civil War, at a time when there was not another college in the Turkish Empire. The idea originated with two Yale students—the sons of Dr. Dwight, a missionary at Constantinople—but the founder was Dr. Cyrus Hamlin, then of the American Board. Mr. Robert, for whom the college was named, was a New York merchant and treasurer of a home mission society; he gave $400,000 for the buildings. The institution is independent but is incorporated under the laws of New York, and its three leading trustees must be American citizens. Opening in 1863 with four students, it had graduated (up to 1904) 450 students with the degree of A. B., but 2,575 young men had spent at least three years in its class-rooms. So many

nationalities are represented (a group of fifteen is shown in one of the illustrations) that eleven languages are taught, with more or less instruction in several others. English, however, is the language of the college. Of 409 students enrolled in 1907, there were 229 Greeks, 85 Armenians, and 39 Bulgarians. Robert College has been the leader in education throughout a large part of Asia, and the influence of its students has been felt even in the Czar's council-chamber at St. Petersburg. It is interesting to note that the two delegates from Bulgaria to the Hague Conference were graduates of this college.

Under the direction of the Congregationalists, there are eight other American colleges in the Turkish Empire. Central Turkey College, at Aintab, has graduated twenty-seven classes. At the headwaters of the Euphrates, rising above the crowded houses of Harpoot, is Euphrates College, with about 1,000 students. The nearest institution of its kind is the college at Aintab, nine days' journey to the southeast; there is another at Marsovan, eleven days' journey to the northwest. There is none northward to the Black Sea, nor eastward to the Persian and Russian frontiers. Anatolia College at Marsovan, 350 miles east of Constantinople, has a field of 80,000 square miles. South of the Cilician Gates of Asia Minor is St. Paul's Institute, at Tarsus, the birthplace of the Apostle Paul. It was founded chiefly through the generosity of Colonel E. F. Shepard, of New York, and the sister of Chief-Justice Brewer is a member of its faculty. One of its graduates is a business partner of King Menelek, of Abyssinia. At Smyrna, a city with a population as large as that of Cincinnati, is the International College, with more than 300 students. At Samokov, ten miles from the troubled frontier between Bulgaria and Macedonia, is the Collegiate and Theological Institute.

The American Board has also two schools for the higher education of Turkish girls. At Constantinople, on the Asiatic side of the Bosphorus, overlooking the Marmora, the Golden Horn, and the mosques and minarets of old Stamboul, is the American College for Girls, with nearly 200 students. A feature of their college life is the presentation of some of the old Greek plays in their original language. One of its graduates, now the wife of a professor in the Imperial University, is the only Mohammedan woman in the Turkish Empire to receive the degree of A. B. Central Turkey Girls' College is at Marash, a city of 50,000 people 110 miles northeast of Tarsus. Turkish is the language of the students but their text-books are in English. In addition to these advanced institutions, the American Board has more than fifty boarding and high schools, and more than 400 elementary schools.

The Syrian Protestant College in Beirut is another great outpost of American civilization and is "one of the noblest Christian colleges in the world." It is an independent corporation and Mr. Morris K. Jesup of New York is president of its board of trustees. It has seven departments, fifteen buildings, a faculty of sixty-eight instructors, and enrolled 878 students in 1907. Their classification was as follows: Preparatory, 515; collegiate, 189; medical, 102; pharmacy, 27; nursing, 6; commercial, 38; biblical archæology, 1. The roll of its alumni includes the names of hundreds of men who have distinguished themselves in the East, and it shows that a very large part of the reconstructive work of the English in Egypt was in the hands of subordinates trained in this American university.

But there are many Americans outside of Beirut who are doing a remarkable educational work in Syria. The Presbyterians have more than a hundred schools, with approximately 5,000 pupils, and many of the schools are of high grade. From their two seminaries for girls—one at Beirut the other at Sidon—have gone 300 young women to teach in the schools of Syria, Palestine, and Egypt. Gerard Institute, at Sidon, is sending out a large number of boys with industrial training.

AMERICAN TEACHING IN AFRICA

The most remarkable American educational work in the Dark Continent is that of the United Presbyterians in Egypt. The map on page 9867, showing American schools on both sides of the Nile nearly all the way to the Sudan, tells a surprising story. More than 15,000 students were taught in these schools during 1906—and Dr. Charles R. Watson says that there were only 18,000 in the Government schools that year. Assiut College, the centre of this educational work, has been called "the hope of Egypt" by President Angell, of the University of Michigan; Mr. John R. Mott, after a tour of the colleges of all countries, says that this is "one of the most strategic, most efficient, and most fruitful institutions in

all the world." It enrolls about 700 students annually and has trained a whole generation of useful men. More than 4,000 have there received instruction, and its graduates fill important positions from Cairo to Khartum.

Of not less importance is the work of educating the women of Egypt. The Americans have girls' schools at Cairo, Luxor, and Assiut, with an enrolment of nearly 1,000, representing different races and religions. The Cairo school is opposite Shepheard's Hotel, known to all tourists; and that at Luxor, the site of ancient Thebes, is on the tourist road to Karnak. From one of these girls' colleges an Indian prince selected a peasant girl as his wife, and was so pleased that he gave the school a generous contribution every year as long as she lived.

The United Presbyterians have also extended their work far into the Sudan. There are Arabic schools at Khartum, Omdurman, Khartum North, and Halfa; and 500 miles further inland, at Doleib Hill, a graduate of the Iowa Agricultural College is training the Negroes of the Sudan.

In those parts of Africa where the dawn is just beginning to break, most of the American schools are of elementary grade. The most important group is that of the American Baptists on the Congo, where nearly 8,000 pupils are receiving practical instruction in about 250 schools. Several other missionary societies are also at work along the same river. To the north, in the French Congo and German Kamerun, the Presbyterians have about sixteen schools in the Gaboon region. The Methodists have about thirty schools in Liberia, with a college at Monrovia; and half a dozen other societies have stations in Sierra Leone. In Portuguese West Africa, south of the Congo, the Congregationalists have about twenty schools, and the Methodists are also at work in Portuguese Angola. On the east coast the American Board has a few schools in Central Africa and about seventy among the Zulus of Natal. The Methodists are in Rhodesia and Portuguese East Africa, and there are a number of schools in other regions.

AMERICANS IN LATIN AMERICA

In the countries of Latin America, which is much nearer home and where the percentage of illiteracy is very high, comparatively little educational work has been done by the missionaries, but the explanation is to be found in the fact that it is not easy to get Catholic children into Protestant schools. There are approximately 160 American mission schools in Mexico, including about 25 colleges and high schools, chiefly in charge of the Methodists and the Presbyterians. Practically no work of this kind has been done in Central America, but the missionaries are on both sides of the continent to the south. Of perhaps fifty American institutions for higher education, the chief is Mackenzie College, at Sao Paulo, Brazil. It is probably the best college in South America and has educated many of the most influential men of Brazil. It is affiliated with a number of the colleges of the United States. In addition to the activities of the missionary educators, Americans have influenced education in South America in other ways. In Argentina, for instance, about sixty American teachers have at various times been in charge of the Government's normal schools. Dr. Harrington, a Methodist missionary in Bolivia, conducted a boys' school in La Paz so successfully that the Bolivian Government asked him to take charge of public instruction in the district of Oruro and gave him a large appropriation with which to organize the work.

Scattered here and there over the world—in Singapore, the Caroline Islands, Malaysia, and elsewhere—are other American schools, but the list is long enough. Even in Europe they are at work. The American Board conducts the International Institute for Girls in Madrid, and the Baptists have the direction of theological seminaries in Hamburg, Germany, and Stockholm, Sweden.

It is worth while to remember, in considering the work of these thousands of American schools, that, with the exception of the government schools mentioned in the beginning, this country receives not a dollar of tribute from any of the nations which reap the benefits of the training. And yet a distinguished French editor who recently visited the United States for the first time could see nothing but the passion of money-madness stamped upon our faces!

"What is the attitude of the Government at Washington toward your work?" I asked one of the leaders of this teaching army.

"Indifference and tolerance," he replied. "The Government sends out special agents to look for foreign trade and has warships to open foreign ports, if necessary, but they say that we have no business over there. We have nothing to sell."

THE PREVENTION OF POVERTY

THE RESULTS OF TWENTY-FIVE YEARS OF ORGANIZED WORK BY CHARITY ORGANIZATIONS TO ERADICATE AS WELL AS RELIEVE DISTRESS

BY

ARTHUR B. REEVE

A POOR woman, suffering terribly from consumption, with an anæmic, unkempt child, living in a tumbled-down lodging, was discovered in Philadelphia a couple of years ago. The brotherly love of a relief society furnished her with rent and groceries for many months, but the society at length appealed to organized charity for aid in taking care of the case. Her present needs having been provided for, the charity society began to look up the woman's references. Every one of them proved to be false and the relief society's officers then became disgusted.

"Wait until the investigation is over," cautioned the trained charity worker. A few days afterward, a chance remark by the little boy led to the discovery of the real story that had been hidden for two years. The feeble-minded mother had wandered from a well-to-do home in another city, taking with her the only child. The family had searched for them in vain. Within forty-eight hours after this clue had been disclosed the woman was back in her own home with a trained nurse, and the child was back at school. Which was the better neighbor, organized or unorganized charity?

There was once a poor wayfarer who fell among thieves on the road to Jericho. Charity, then in its childhood, bound up his wounds and carried him to an inn. To-day charity, in its maturity, does the same — and more. It polices and lights the Jericho road so that the wayfarer need not fall among thieves at all; it goes even deeper and seeks to find out and remedy the causes that make men thieves.

This is the so-called "new view" of charity. A new spirit of hopefulness has come into it. "Poverty," said a leader of charity recently, "is now believed to be a preventable disease —at least, in a large measure. The poor we have with us yet, millions of them; but there are those of us who believe that we have at last found a way which in the future will reduce poverty to its lowest terms; will perhaps even minimize the personal causes of poverty, such as thriftlessness, drunkenness, ignorance, and the like; will certainly minimize industrial causes such as lack of work, bad housing, disease, low standards of living. It is important to remedy the effects of poverty; but there is vastly more promise for the future in remedying the causes." This is the optimism at the close of the first quarter of a century of organized charity—back to the causes.

THE FEDERATION OF CHARITIES

Twenty-five years ago a small group of earnest men and women met together in New York to consider why it was that, with the hundreds and thousands of relief measures in the city, so little headway was made. They were asking themselves the same question that business men were asking at the same time, that laboring men had been asking for a couple of generations. The answer at which they arrived was the same as that of the business man and the laboring man. In place of waste and overlapping and destructive competition there must be economy, organization, and coöperation. The result of this and similar meetings elsewhere has been that there are to-day nearly 200 charity organization societies in the United States—to be exact, 197 in North America and 189 in foreign countries. Each is a sort of clearing-house in its own city for the various allied charitable societies, differing possibly in name but one in spirit and principles; if is a veritable "trust to abolish poverty."

What has charity organization actually accomplished? Has a quarter of a century of social service justified its existence? To quote its individual successes would make an interesting but interminable series of human documents. The great, concrete, quickly

grasped successes, however, have been of prevention, not of palliation. Let us take some of the more striking, more human achievements.

POVERTY A CURABLE CONDITION

Twenty-five years ago it was the current belief that poverty was permanent. To-day, in spite of all the social misery—perhaps increased social misery—that one sees on every hand, it is the belief that poverty is, to a great extent, curable. The old charity, charity that meant a dole to the poor by a sort of Lady Bountiful, has passed away. To-day the new charity is ushered in, charity that is nothing short of ultimate justice to the poor. As preventive medicine is to-day recognized as more important than pounds of curative medicine, so in charity the new view is that prevention far outranks palliation—always remembering that adequate relief is to poverty exactly what curative medicine is to disease.

A quarter of a century ago thousands of charitable societies were blindly endeavoring to cope single-handed with the poverty evil, each in its own little way. To-day they are uniting, strong in the new-found powers of organization and coöperation. From the same platforms, in a recent series of charity organization meetings, spoke Protestants, Roman Catholics, and Jews; Democrats and Republicans; representatives of every race and color; delegates from scores of associations, local, state, and national; expounders of every social theory, from individualism to socialism. The audience was composed of lawyers and physicians, clergymen and bankers, business men and scholars—nearly every conceivable occupation and profession. And not a jarring note was struck. Such a gathering would have been impossible a generation ago. Now, in the face of a common enemy, differences are obliterated.

For tangible achievements let us take New York as the best example—New York whose population in the Borough of Manhattan alone has doubled in a generation, while the greater city has more than doubled the area of the original city. Seven years ago New York was full of "old law" tenements with "air shafts" perhaps eighteen inches wide and closed at the bottom—dark, filthy, malodorous breeders of disease and vice. To-day, as a result of the tenement-house reform, begun and kept alive by the Charity Organization Society, one million people are housed in "new law" tenements; they are far from perfect as yet, but they have courts measuring feet where air-shafts measured inches, are open at the bottom as well as the top, with more air, more light, and better sanitation. The battle has only begun; congestion is fast crowding on the heels of reform, but the course is plain and there will be no retreat.

Ten years ago there was in New York no municipal lodging-house; homeless men and women slept on the floors and benches of police stations, or wherever they could. To-day, owing to the campaign of the Charity Organization Society, which maintained for years a privately supported free lodging-house, rather to demonstrate the need than to claim to satisfy it, the city has a clean, sanitary municipal lodging-house, the first of its kind in the United States, and a larger one is being erected.

In 1891 the first public bath-house was erected in New York, in answer to the insistent demand of the Association for Improving the Condition of the Poor, a society closely allied in joint work with organized charity. To-day there are eighteen public baths built or building by the city and various charitable societies. So with parks, playgrounds, recreation piers, all of which movements organized charity has helped along by means of committees or by the strong support of its individual members.

Five years ago tuberculosis was increasing throughout the country with ominous speed, and little organized effort was being made to check it. To-day the original Charity Organization Society's tuberculosis committee of New York has been duplicated by local committees in almost every city of the Union, with a great national organization sprung directly from it, national and local campaigns of education, popular lectures, traveling exhibits, instruction, and literature distributed by the million pieces. At last tuberculosis is "fluctuating" instead of showing uniform increase. As in the case of tenement houses, the way is plain; and as in the case of the lodging-house, the city has taken action to provide free sanatoria.

A dozen years ago there was but one savings bank in the whole of New York City that would accept a deposit of less than a dollar. To-day many do so; several department stores have taken up the idea, and the Penny Provident Fund, a charity organization activity which started this new trend in thrift, has annual deposits of $100,000, in small amounts, at its 300 branches. Every year it is graduating

its pupils in provident habits into the larger field of substantial deposits in regular savings institutions.

During the hard times of 1893 there was no place where the poor could borrow money except from the pawnbrokers, where the maximum legal rate of interest of 3 per cent. a month was the rule rather than the exception. If this winter proves to be the poor man's "hard times," there is the Provident Loan Association, an outgrowth of organized charity, which charges no more than 10 per cent. a year and is limited by its charter to 1 per cent a month. Last year it loaned some ten million dollars to the poor of New York. Best of all, it has by competition forced the pawnbrokers to reduce their rates.

The list of results could be expanded indefinitely, not only for New York but for every city where the charity organization idea has obtained a foothold and enables social work to assume proportions that make it really effective.

HOW ORGANIZED CHARITY DOES ITS WORK

Quite as interesting as the results obtained are the methods and machinery by which an organized charity does its work. Let us take, for example, the homeless man wandering the streets. Suppose he is directed to the Joint Application Bureau of the Charity Organization and the Society for Improving the Condition of the Poor. His story is the old one of a lost grip on life. His present distress must be relieved—but, more than that, he must get a new grip on things. First he is sent to the wood-yard. (The homeless woman is sent to the laundry.) After a "day's" work, which consists of three hours, he receives tickets for two meals and a clean lodging for the night. Not long ago one of the critics of this method complained that the wood-yard blistered his hands, but after a few questions he added: "Of course, you see that I am not used to working." If the man is not homeless he receives fifty cents instead of tickets. Later, in either case, he is given the addresses of a number of good employment agencies or of several employers of labor who happen to need men at that particular time. Naturally there are no sinecures given out—sinecures never get as far as employment agencies or application bureaus. The trouble with most homeless men is that they are unskilled laborers —and therein lies the tale of the great need of industrial education in America. But if a man makes an honest effort to find work, he can depend on the charity society to stick by him.

Sometimes, however, a man is unfit for ordinary work; he may be the victim of a dangerous trade, return to which means for him certain death. He may be a man physically or socially "handicapped." For him a Special Employment Bureau for the Handicapped is maintained, to add him as a fraction, if not as a unit, to the sum total of productive labor, instead of allowing him to become a zero or perhaps a minus quantity.

Thousands of cases, of course, do not come to the central bureaus but are taken up at the ten district offices in the city, each having a section under its charge with a population as great as the city of New Orleans. All cases are investigated and registered in a registration bureau. This, as well as the same work among the homeless, is the so-called "case work." It has been harshly criticized by its enemies and as warmly defended by its friends. Perhaps a better way to express it would be to soften the word "investigation"—it is merely the work of finding out the truth, as in the case of the woman suffering from consumption. "Case work" is absolutely necessary, for relief given in ignorance may be the worst possible thing. Then there is the statistical bureau, in which the experience in a hundred thousand cases in the past is made to contribute to the solution of the millions of the future. It is a sort of social clinic, as necessary to the charity worker as the medical clinic is to the doctor.

The most recent charity development in New York is the Department for the Improving of Social Conditions, which includes the three important committees on tenement houses, tuberculosis, and mendicancy. The work of the tenement-house committee has already been touched on. One of its greatest achievements last year was the killing of several bills in the state legislature that were surreptitiously introduced to nullify the advance of the last decade. The committee has already pointed out the graft into which the city's tenement-house department fell and has helped to reorganize the department.

Though Koch discovered the tubercle bacillus in 1882 and the city of New York did much to check the progress of consumption during the following years, it was not until 1902 that the really effectual way was found to educate the people to the dangers of the

"great white plague." That was when the tuberculosis committee was formed. Last year its popular exhibit was shown before 70,000 persons, and in the past five years lectures have been given to 150,000. About 60,000 of its famous "Don't" cards (beginning: "Don't give consumption to others! Don't let others give it to you!") were distributed, and the Board of Health is now engaged in distributing 400,000 more. Similar warnings go to each of the 600,000 school children of the city. By the courtesy of a large department store, which has the advertising rights, the backs of the street-car transfers are used on Sundays for tuberculosis warnings, thus reaching more than a million people once a week. Besides this preventive work, a great deal of actual relief work is being done for poor tuberculous patients. Among other things, the old Staten Island ferry-boat *Southfield* has been transformed into a free day-camp for consumptives who cannot afford to leave the city—the treatment being given at the surprisingly low cost of only thirty-seven cents a day for each patient that can be accommodated—an object lesson in the possibilities of such relief.

The mendicancy committee, one of the first activities of the society, was in a fair way to suppress street-begging when the present police commissioner, two years ago, saw fit to withdraw the detail of police from it. At once New York became again infested with "panhandlers," ingenious letter-writers, and mendicants of all sorts. But the city has already been educated in a great degree to the knowledge that the stray dime given in ignorance perpetuates the condition that it seeks to cure. The 8,000 records accumulated have also become an invaluable storehouse of information, and the work is now to educate the people to the evil of indiscriminate giving, rather than to suppress the mendicant himself.

It is not enough to better the living environment of the poor, nor to afford relief, nor even to secure work. Habits of thrift must also be inculcated, and this is the work of the committee on provident habits, with its Penny Provident Fund, already described, working through a stamp savings-card system. Moreover, crises in the lives of the poor must be tided over, and this is the work of the Provident Loan, now a separate institution.

It must have become evident to the reader by this time that organized charity has created a demand for an entirely new kind of skilled worker with the poor. Indeed, within the past decade, a new profession has come into existence—a large body of specialists thoroughly trained in the latest methods of coping with the problems of poverty. In 1898 the first course of summer-school training in "applied philanthropy" was begun in New York. Since then this temporary school has been endowed into a permanent undertaking with both winter and summer courses, and the idea has spread to other cities. Hundreds of young men and women have thus been educated for this new calling of social work in the New York School of Philanthropy, the Boston School for Social Workers, the Chicago Institute of Social Service, and the St. Louis School of Philanthropy. Here is a unique development of charity work. New York alone has turned out 600 trained workers.

There is also a library where social problems can be studied by the public, by the students in the schools, and by the volunteer workers, where the records of the past guide the future. One of the most recent additions to the New York school is a bureau of social research, which has been organized among the students for the express purpose of special study at first hand of social questions which have scarcely been dealt with before.

Moreover, a national publication committee has been formed and a weekly magazine is published—*Charities and the Commons*. Into this magazine have been merged several charity periodicals, making now a strong paper which goes to those interested in charity all over the country. Better than that, it is frequently quoted at length as an authority by newspapers and magazines, and thus widely extends its field. It is becoming the great American organ of social service movements, for scarcely a leader in such work can be named who is not a regular, and free, contributor to its success. Last year was added a regular press service to which the most noted social workers of the country also contributed articles, which are syndicated in newspapers throughout the United States—reaching two million readers every week. In every conceivable way effort is made to arouse the social conscience of America to its duties.

One of the great ideas contributed by New York has been the idea of a United Charities Building, where, under one roof, the headquarters of all these activities are centred.

The result is that in improving social conditions all are working in harmony and in close touch. So much has Berlin thought of the idea that it has adopted it from America and will soon house all its charitable activities under one roof.

An entirely new field is opened for organized charity in relief following disasters such as the *Slocum* disaster and the San Francisco earthquake and fire. It has been calculated that in the past thirty-six years in twenty-seven such great calamities—fires, earthquakes, floods, yellow-fever epidemics, droughts, hurricanes, cyclones, tidal waves, and shipwrecks—at least $25,000,000 has been contributed for relief. In every one of these cases, had organized charity been on the spot, the adequate machinery of relief and a small force would have been ready, while behind the local society would have stood the united societies of the country—a sort of first aid in case of disaster. Such was actually the case in the Park Place disaster in New York in 1891, the hard times of 1893, the coal scarcity of 1902, the Kansas, Missouri, and Oregon floods of 1903, the *Slocum* disaster of 1904, the Baltimore fire of the same year, and the San Francisco disaster of 1906. And, in the present winter, should hard times again strike the poor as they did in 1893, here is a powerful agency to meet them.

THE MEN WHO LEAD THE WORK

There are scores of great personalities in the movement. Although Buffalo antedated New York by a few years in organized charity, it has been the latter city which has led the way, and in it many great names stand forth. Above all should be mentioned Mrs. Josephine Shaw Lowell, more than any one else the founder of the society, and for twenty-three years, up to the week of her death, its constant servant—wise, sympathetic, ever eager to uplift humanity by patient labor. She died in 1905, leaving her work as her monument.

In all but five of the years of its history, one man has headed the New York Charity Organization Society—Mr. Robert W. de Forest. He it is of whom Dr. Emil Münsterberg, director of the Berlin public charities, said: "I have come to believe that Mr. de Forest is the true incarnation of American charity." As Tenement-House Commissioner in 1900, and chairman of the executive committee of the Sage foundation and its vice-president in 1907, as president recently of the National Conference of Charities and Correction and of the New York state conference, in scores of ways Mr. de Forest has indelibly stamped his impress on social service.

Dr. Edward T. Devine, the general secretary of the New York Charity Organization Society, the first director of the school of philanthropy, holds the chair of Social Economy at Columbia, endowed by Mr. Jacob H. Schiff, and was also the representative appointed by President Roosevelt to aid in the relief and rehabilitation of San Francisco. The present director of the school, Dr. Samuel McCune Lindsay, formerly of the University of Pennsylvania and secretary of the National Child Labor Committee, now holds the chair of Social Legislation at Columbia.

Outside of New York there are so many leaders that one scarcely knows where to end —Mr. Robert Treat Paine of Boston, who originated the famous phrase, "Not alms but a friend"; Dr. Jeffrey R. Brackett and Miss Zilpha D. Smith, of the Boston School for Social Workers; Miss Mary E. Richmond, the head and heart of the Philadelphia society; Mrs. John M. Glenn of Baltimore and Mr. John M. Glenn, formerly in the same city, who is now the director of the Sage Foundation; in Buffalo, Mr. Frederic Almy; in Chicago, Mr. Ernest P. Bicknell; Professor Graham Taylor, famous for his settlement, the "Commons"; Miss Jane Addams, famous for her work at Hull House; Professor Charles R. Henderson of the University of Chicago; and a host almost as large as that in New York.

Here we have, compressed, the record of a generation of achievement in social service. But more important than achievement, or machinery, or personalities, is the outcropping of the "new spirit" behind all. No one has "glimpsed" it better than Professor Simon N. Patten:

> "Our children's children may learn with amazement how we thought it a natural social phenomenon that men should die in their prime, leaving wives and children in terror of want; that accidents should make an army of maimed dependents, that there should not be enough houses for workers, and that epidemics should sweep away multitudes as autumn frosts sweep away summer insects. . . . And they will be unable to put themselves in our places, because the new social philosophy, which we are this moment framing, will have so moulded their minds that they can not return to the philosophy that moulds ours."

A PRACTICAL EXPERIMENT IN FLETCHERISM

HOW A PROFESSIONAL WOMAN WORKED OUT THE PROBLEMS OF SANER LIVING, AND RELIEVED HOUSEKEEPING OF ITS DRUDGERY

BY

FRANCES MAULE BJÖRKMAN

THERE were two things that I used to say I should never do. One of them was to get married and the other was to keep house. I had at an early age an overwhelming desire to go out into the world, to look out for myself and to earn my own living—and a correspondingly strong disinclination to stay at home, look out for other people, and work for board and clothes.

Two years ago I broke my first vow by taking a husband. Two months ago I broke my second by taking a flat. The results of these two hazardous experiments have been so unexpectedly gratifying, however, that I have resolved to set them down here for the benefit of the increasingly large number of women who feel as I did, that their lives were given to them for a larger purpose than cooking and cleaning and providing for the physical needs of another person. For their encouragement, I shall state at the outset that I am still earning my living at the occupation I have chosen and using my energies for the furtherance of my own individual aims and purposes. I have not given up my "career," and yet I am enjoying all the advantages of writing a "Mrs." before my name and all the comforts of a real home.

How I succeeded in combining personal freedom and independence with matrimony and domesticity is the matter herein set forth.

When my early belief that marriage was incompatible with personal liberty had been overcome, there still remained a strong conviction that independence and housekeeping could never go hand-in-hand. Therefore, before "naming the day," I established a distinct understanding that there was to be no background of pots and kettles to my new life. We made no preparations for setting up even a modest establishment. I merely moved my trunks up to my husband's bachelor apartments, and we started in to "bach it" together instead of separately.

It was great fun. We got our breakfasts on a chafing-dish and went out for our lunches and dinners. There was only one objection to the system: it cost us all that we both could earn. We were not extravagant, we cared nothing at all for the so-called luxuries of the table, we almost never dined in style—and yet, although we were both doing well financially at the time, we found ourselves at the end of every month without one penny to "put by." Our rent was extremely reasonable for the comforts we enjoyed—only $25—but we found that our bare living expenses ate up approximately $125 a month. As our light, heat and service were included in our rent, it will be seen that our food was costing us $100 a month, or something like $3 a day.

Now as we did not wish to spend our lives in laboring for just enough money to fill our stomachs and keep a roof over our heads, it was clearly necessary for us to make a change. This was easy to say and difficult to do. A boarding-house was out of the question, an apartment hotel too expensive, and housekeeping still presented a menacing front, bristling with brooms, frying-pans, and other devices for defrauding a woman with something to do of her valuable time.

OUR STAY AT HELICON HALL

Then came Mr. Upton Sinclair, with his project for establishing a coöperative home, and I thought that Providence had sent us our solution. I speak for myself alone; while my husband was lured on by my enthusiasm, the judgment of his maturer years and wider experience led him to feel somewhat apprehensive for the success of such a scheme.

However we went into it. For $16 a week we were each accommodated with a room and

three meals a day, to say nothing of the privileges of a swimming-pool, a billiard table, a bowling-alley, and the freedom of a beautiful park of nine acres. I think that no one who was connected with that ill-fated experiment will ever recall the life we led at Helicon Hall with anything but tenderness and regret, but I also think that there must now be few who look back upon it as a practical working solution for the domestic problem.

For a while we did live in freedom from concern for our material needs—but only for a while. Before long, in company with the rest of the members of the group, we found ourselves grappling with a set of coöperative cares and anxieties that made our little individual worries of the past seem like the veriest pin-pricks. It was the old story of the struggle of the idealist and innovator against the cold, hard facts of the established order. With every passing week we were presented with problems and difficulties that had not occurred to us to provide for in outlining our plan. We began to see all sorts of rocks and dangers ahead—and then one night a fire destroyed Helicon Hall and put an end to the whole scheme.

But then came the question of what we were to do next. One who has never found himself standing out in the snow with not one of his personal belongings left to him but his "nightie" can hardly realize the state of bewilderment and indecision that is induced by such an experience. Just because we were too dazed to think, we did the thing that was first suggested to us—we went to a boarding house.

A TRIAL OF THE BOARDING-HOUSE

The establishment was clean, comfortable, and well-managed. The meals were wholesome and good. Yet we were able to stay just two weeks. We had no complaint to make. The place was probably the flower of its kind. Absolutely the worst we could say of it was that it was a boarding-house. To us, however, this was more than sufficient reason for getting out of it. We moved into furnished rooms and once more began taking meals at restaurants.

But by this time the effects of the disaster had begun to make themselves felt. Our income had been materially reduced just before the fire because my husband—encouraged by the fact that we had a neat little nest-egg in the bank, that we were supplied with almost everything we needed to take us through the summer and that my earnings were enough to cover our regular running expenses—had left his position on a newspaper to write a long-projected book. The day after the fire the nest-egg was broken and well-nigh consumed by the purchase of two complete new outfits of clothing and an apparently endless list of "absolute necessities," beginning with toothbrushes and ending with typewriters. In the days that followed, my earnings were cut down to next to nothing by the fact that the shock of the disaster had temporarily deprived me of the power to work. My husband was prevented from turning his hand to money-getting because he was under contract to finish his book within a limited time.

Day after day I sat over my typewriter with a deadened brain, absolutely unable to frame one connected and logical sentence. Our little hoard in the bank dwindled alarmingly, and, helplessly, we had to watch it go. In our eating, as well as in everything else, we were practising what we regarded as the most rigid economy consistent with discretion, and yet the three meals which we were firmly convinced we had to have to keep in condition were costing us from $1 to $2 a day.

In the midst of this dilemma, a fortunate chance threw in our way the great apostle of reduced diet through complete mastication—Horace Fletcher. Mr. Fletcher told us that we not only did not need more than a third of the food which we were making such desperate efforts to get, but that we should actually be much better off without it. In support of his statement he related the amazing story of how, at the age of fifty-eight and after he had lived for ten years on about one-third of the food that physiological science has declared necessary for the maintenance of physical efficiency, he had doubled the best records of the best athletes at Yale, easily and without having previously undergone any physical training whatever. Furthermore, he told us how, during an endurance test made three years before, he had beaten the records made by the best men of the Yale boat-crew, while living on a diet of cereal and milk at a cost of exactly seven cents a day—this without imposing any artificial restraints upon his appetite and without practising anything like self-denial.

We were sufficiently impressed by his words to be willing to make the experiment. That very evening we began to "Fletcherize" and the next day our restaurant checks showed the

results. One trial of the system was enough to demonstrate to us that it was unquestionably true that a much smaller quantity of food was required to satisfy the appetite when it was masticated, à la Fletcher, to the point of extinction, than when it was merely "chewed thoroughly" in the ordinary manner. As the Fletcherizing process did not detract from the pleasure of eating, but rather added to it by heightening the flavor of almost every dish, we decided to keep on with it. The result was that within a week we had cut down our old-fashioned breakfast of cereal, eggs, rolls, and coffee to the last two items alone. Our other meals showed a corresponding decrease in quantity—particularly in the amount of meat, for which we both suddenly seemed to lose our taste.

At this point it occurred to us that, since we apparently neither wanted nor needed meat, we might be able to effect a very considerable reduction in our expenses by applying the breakfast system of our bachelor apartment days to the present situation and getting all our meals in our room. We bought a small portable "gas ring," a little saucepan, a twenty-five cent coffee percolator, two cups, saucers, plates, knives, forks, and spoons—and started in.

It is surprising how many good things it is possible to prepare in a single saucepan over a single gas flame. As a matter of scientific interest, we kept a record of what we had for our meals and as we carefully preserved our memoranda, I am able to give here a list:

TYPICAL BILLS OF FARE

SUNDAY.
Breakfast.
Rolls and coffee.
Lunch.
Cereal and cream.
Grape-fruit.
Dinner.
Eggs scrambled in cream.
Lettuce and tomato salad.
Corn muffins.
Stewed rhubarb.
Crackers and cheese

MONDAY.
Breakfast.
Rolls and coffee.
Lunch.
Lettuce salad.
Wheat wafers.
Orange.
Dinner.
Bacon and eggs.
Stewed corn.
Rolls.
Fruit salad.

TUESDAY.
Breakfast.
Oaten wafers and coffee.
Lunch.
Strawberries and cream.
Corn muffins.
Dinner.
Poached eggs.
Boiled onions.
Graham gems.
Bananas and cream.

WEDNESDAY.
Breakfast.
Oaten wafers and coffee.
Lunch.
Cereal and cream.
Orange.
Dinner.
Welsh rabbit.
Lettuce and cucumber salad.
Rolls.
Stewed prunes.

THURSDAY.
Breakfast.
Coffee alone.
Lunch.
Cream cheese and bar le duc jelly.
Crackers.
Dinner.
Eggs scrambled with onions and green peppers.
Combination salad.
Wheat muffins.
Stewed rhubarb.

FRIDAY.
Breakfast.
Coffee.
Lunch.
Cereal and cream.
Dinner.
Baked beans.
Stewed tomatoes.
Brown bread.
Fruit salad.

SATURDAY.
Breakfast.
Nothing.
Lunch.
Strawberries and cream.
Dinner.
New asparagus in cream.
Lettuce and cucumber salad
Rolls.
Stewed apples.

For two weeks I also kept an account of our expenditures for food and found that they amounted to $12.58, which made an average of less than ninety cents a day. This indicated a substantial saving. Moreover, as we had to buy in extremely small quantities—which every housekeeper knows is the most wasteful and extravagant manner possible—as I was absolutely without experience in the art of marketing, and as we were limited to such foods, cheap or expensive, as could be cooked in our single saucepan, it did more. It indicated possibilities in the way of economizing that seemed worth pursuing further.

But this implied a refrigerator, a real stove, and other domestic machinery. In a word, it implied housekeeping.

"But, after all, why not?" I said to myself. Our lunches were costing us less in time and trouble than they had formerly cost when we had to go out and get them at a restaurant. The preparation of our dinners was a genuine "lark." Taking the situation all in all, I had to admit that we had never been so free from the worry and fuss of providing for our material needs since our marriage—and this in the face of the fact that we had to balance our cook-stove on a chair, wash our dishes in our hand bowl, and keep our butter in a wet cloth under the drip of the faucet.

I reasoned that, as Fletcherism could be practised in a flat as well as in a furnished room and since women for housecleaning were always available, I might actually be the gainer in leisure and freedom for the conveniences of the once despised kitchen. For the first time in my life, I began to see charms in a gas stove, attractions in a refrigerator, beauties in a kitchen sink.

We were paying $8 a week for the one room in which we ate and slept and worked. Eight

dollars a week, we calculated, amounted to more than $30 a month — and for $30 a month we had heard that one might rent, for the summer, extremely desirable furnished flats.

When we had reached this point I already saw myself, for the second time, a perjured woman. There was really nothing further to do but look for the flat. Accordingly, somewhat shamefacedly, but nevertheless with determination, I set out with my list of advertisements. Within a week the deed had been accomplished.

We have now been keeping house according to Fletcheristic principles for two months; and, as I stated at the beginning of this article, I am still doing my own chosen work and pursuing my own individual purposes. Furthermore, I am at present earning the living for us both, and I expect to continue to do so for a month or two because my husband is still busy with his book. We are more comfortable, more independent, and happier than we have ever been before, and—what is extremely to the point—we are in immensely better health. A chronic tendency toward nervous dyspepsia in my husband has entirely disappeared and I am so full of energy that I hardly know what to do with it.

To crown everything—never in my life have I enjoyed such long, uninterrupted stretches of work as I do now. I wake up of myself, perfectly refreshed, at 5.30 or 6 o'clock, bound out of bed without a thought for the supplementary morning "snooze" of the past, take a few gymnastic exercises or a run in the park to work off my superfluous steam, bathe, dress, and then—since there is no breakfast to cook—go direct to my desk.

About noon the Fletcheristic "earned appetite" begins to assert itself, and without breaking off my train of thought, I go into the kitchen, get out the fruit, cereal, and cream, and have my first meal. Sometimes my husband joins me—oftener not, because, as a rule, neither wishes to have the mind taken from the subject in hand at that time. Since there is nothing to spoil or to get cold if it is not eaten at once, and since my husband can get everything that he wants for himself, we are both free to break our fast when and how we please. After eating I usually sleep for five or ten minutes and then go back to work.

Toward six o'clock, when my brain is tired and I feel that I should enjoy doing something with my hands, I go into my kitchen for the second time during the day, and, for half an hour or so, amuse myself by getting up for our dinner one or two attractive and wholesome combinations of the good things of the earth—dishes not necessarily found in the cook-books but ones that any intelligent woman might very readily hit upon for herself if she applied her mind to the question of food as to any other abstract problem. As I do this only once a day and as we seldom have more than one or two cooked articles and never anything of a greasy, "smelly," "messy" nature—such as meat or fish—it never degenerates into drudgery. In fact, since I make a point of always trying new things, I find that each afternoon I enter into the business with the zest that attaches to an interesting game.

The other day I added up an account of our expenditures for food which I have been keeping for two weeks. It amounted to $6.13—an average of a fraction less than 45 cents a day and about half the amount of the test account that we kept for the same period in the early days of our experiment. Although in saying so I may lay myself open to the suspicion of indulging in the unconscious exaggeration of the enthusiast, I must add in justice to the great cause of Fletcherism that we are convinced that it reached this high figure only because we have not yet grasped the principles of economical buying.

Where this progressive economy will lead us we do not yet know, but, keeping constantly in mind the fate of the Irishman's horse, we are following it without fear or question. So long as we continue to improve in health and to gain in leisure, in comfort, and in freedom from care, we do not see why we should hesitate to do so.

I am fully aware that the solving of the domestic problem by reducing the quantity of their food and by eliminating some of their meals altogether, is a notion that will fail to appeal to very large numbers of people. On the other hand, I know that there must be some who are ready to welcome any sane system that promises them emancipation from the tyranny of the three inexorable meals a day. To these refined souls this article is addressed in the hope that it may lead them into the path that has taken us out of all our old troubles and perplexities.

THE DEFENDERS OF OUR SHORE-LINE

THE COAST DEFENSE ARTILLERY AND ITS REMARKABLE ACCURACY WITH GUNS WHICH HURL HALF-TON SHELLS OVER A DISTANCE OF EIGHT MILES

BY

FRANCIS JOHN DYER

TIMID persons who live within sight of the coast-line find themselves wondering, when speculations concerning the danger of war find expression in the public press, whether they might not be in peril if war should come and belligerent fleets should appear off the sea-coast of the United States. Fear of invasion is not so great as it was in earlier days nor is it so prevalent in this country as in lands across the seas.

The average citizen has no time to inquire into coast-defense problems. He knows that the nation is paying out a great deal of money every year for the army and navy and he assumes that the men whose vocation is war are earning their pay by looking after the nation's defenses. That there are fortifications around New York and at various other places on the seaboard he is well aware, but he has never been inside them. Still, the dogs of war may some day be unleashed, and then who so likely to feel their fangs as the people on the ocean frontages of the land? What would happen if New York were attacked? That is just what the average citizen cannot tell.

Suppose that a state of war were suddenly to be declared. Along the entire coast of the United States, officers and privates of the Signal Corps would go on patrol duty day and night. Scout-boats would be performing the same kind of picket-duty off-shore at the more important ports. At every fort powerful telescopes would continuously sweep the range of vision for any suspicious-looking craft, and in every wireless station the operators would be on the alert to catch the first whisperings of alarm. The sun would no sooner set than great searchlights would so light up the sea that not even a fishing-boat could hide from their glare.

AN IMAGINARY ATTACK

The news of the enemy's approach would probably come on a night when the clouds and fog favor an attack. The scout-boat flashes the signal; the lookout at the fort sounds the alarm; the word is quickly passed to the fire-commander, who immediately reports to the battery commander. (He may act independently in an emergency.) The bugler sounds "Assembly," and the men come rushing out of quarters, dressing as they run, and take up their positions at the guns. There are quick, sharp orders; the ammunition men rush powder and projectiles to the guns; the searchlights dart their beams here and there in an effort to penetrate the fog. The fire-commander is prepared for the issue. The gunners are at the sights.

Scarcely have the echoes of "the Assembly" died away before all the forts and batteries are in a state of readiness. The battle commander has reported to the artillery district-commander, who at once takes personal charge and by means of his telephone service is in touch with all portions of his command. While the scout-boats are ascertaining the exact location and number of the enemy, the mine commander sits in his little station, ready to touch the button that will explode any particular mine, or to pull the lever that will throw the current into all the mines at once so that they will explode whenever a ship touches one of them. The monitors, the submarines, and the other available coast-defense boats clear for action.

Outside, under cover of the fog, the enemy approaches in double, wedge-shaped formation, the heaviest battleships in the lead. Since the great, rifled cannon in the forts have a much longer effective range than the guns of a battleship, the admiral has determined to run past the batteries into the harbor and capture them by land attack. With this in view, he has already sent ashore in launches strong parties of marines, with three-pounders and machine guns, with instructions to land above and below the fortifications. Their movements are

reported to the artillery district-commander by the coast lookouts. He throws out his artillery supports, who take strategic positions and send out scouts to locate the invaders. Meanwhile the submarines, torpedo-boats, and destroyers have posted themselves just beyond the line of mines, waiting for the small boats of the enemy which will try to clear the channel in advance of the battleships.

At last the wireless telephone station picks up a scout-boat. It reports that out of the fog and blackness it has heard the throb of the engines, under half-speed; and, creeping up, it has distinguished the upper works of the flagship at the head of the line. Then it darts away and in a few moments makes a landmark by aid of which it establishes the position of the enemy. Immediately a searchlight picks out the fighting-tops of the flagship and the range-finders instantly locate them, confirm the information of the scout-boat and flash the range to the batteries.

The command to fire is given by every fire-commander within range. The nearest ships are 5,000 yards distant, but the great guns respond, the earth trembles, and a volley of 8-, 10- and 12-inch shells from guns and mortars goes screeching through the night. Many of them find their mark and the still invisible ship is perhaps rent by an explosion which hurls 20,000 tons of steel in every direction. Some of the fragments are hurled high in the air where the searchlights catch them above the fog now flying in long streamers before the breeze; some fall on the decks of the ships following behind. For a moment the guns cease firing and silence is complete. But the oncoming fleet now has the range of the forts and it opens on the shore batteries with every available gun. As fast as the positions of the ships become discernible, the battle commander directs which batteries shall engage the different ships—the mortars taking the most distant, the 12-inch rifles those coming next, and the 10-inch and smaller guns those nearest at hand. The firing grows fast and furious and the roar is terrific. The earth is shaken by the continuous concussions as the artillerymen work like automatons. The ammunition is delivered by the trolleys at the breech of each gun. There it is taken by the gunners, the projectile is shoved forward into the breech, and seven men, seizing a rammer, force it into its place. Then they shove the silken bags of powder after it, the breech is closed, the counterweight is released, and the 12-inch 50-ton gun rises on its leverage to the firing position. The aim being continuous, it can be fired as soon as it is in position; then the recoil takes it back to its former position and the operation of loading is repeated.

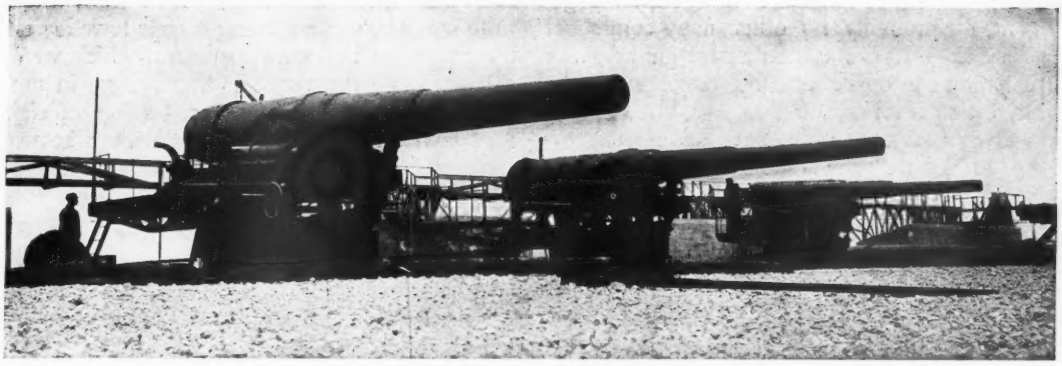
Thus, from all the batteries, a perfect hail of projectiles fills the air. Three more ships are blown to pieces and sink. Still the survivors come on, firing every available gun. Now another ship blows up—and another. The cries of the wounded are at last heard.

"Small boats stand by to rescue," the commander-in-chief orders over the telephone, and preparations are made to go out and pick up any survivors who can be found when the last ship shall have sunk or surrendered.

The end cannot be far off, for no armament could long withstand the hail of shell. Finally the 5- and 6-inch guns join in the action. Three or four of the vessels crawl like crippled beasts toward the shore, where their commanders hope to beach them before they become coffins for their crews. The remainder of the fleet, crippled but not in sinking condition, try to escape. Nothing but wings could save them.

As they turn their prows away from the straight onward course, the great mortars and 12-inch guns, as sure of their range as if it were target-practice on a summer day with corrections made for drift, temperature, wind, barometric readings, and the curvature of the earth, drop shells with the greatest precision on the unprotected decks. The ship on the left blows up with a muffled roar, her nose lifts, then sinks, and she dives to her doom. The begrimed gunners in the forts steady themselves to their work, one ship after another ceases firing, and all of them are quickly sunk save two, which are drifting helplessly. One of these is still firing spasmodically with an 8-inch gun, but a mortar battery sends it also to the bottom.

So much for the battleships. Meanwhile the small guns which guard the mine fields have been sending a rain of steel along the shore-line where the enemy's submarine flotilla and torpedo craft have been trying to get close enough to destroy the mines. Some of the shots tell, but before the guns can dispose of all of the small craft they get within the



THE ENEMY THAT ENTERS NEW YORK HARBOR MUST FIRST RUN THE GAUNTLET OF THESE LONG-RANGE RIFLES AT SANDY HOOK

skirmish line of the mines. Then the mine commander, by pressing a button at the right moment, sends them to the bottom with all their crews save perhaps a dozen who, stunned and bleeding, manage to disentangle themselves from their prison-houses and swim or float ashore.

The landing parties, which have not had time to get into action, are glad enough to surrender without firing a shot.

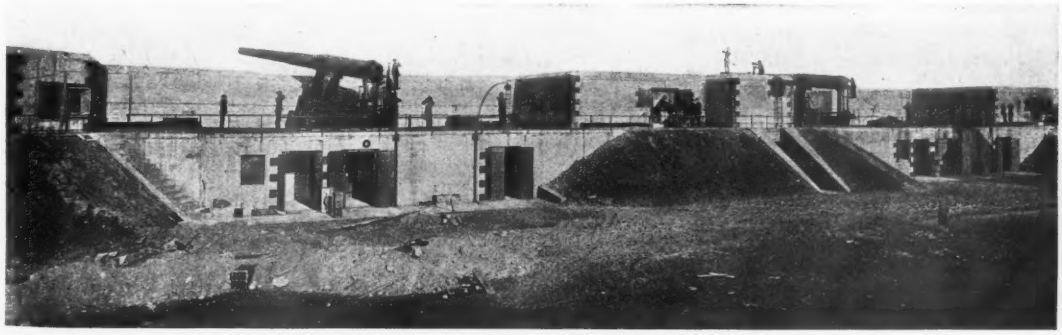
This imaginary conflict is not very different from what artillery officers think would happen if our coast defenses were so attacked. In fact, no navy now in existence could withstand the fire of coast-defense guns able to throw projectiles weighing more than half a ton to a distance of 12,000 yards with mathematical precision. And in this connection it is well to recall the words of President Roosevelt in his message to Congress, read March 5, 1906, conveying the recommendations of the "Taft Board" for Coast Defense. The President said:

" . . . The fact that we now have a navy does not in anywise diminish the importance of coast defenses. . . . A navy can be used to strategic advantage only when acting on the offensive, and it can be free to so operate only after our coast defense is reasonably secure and so recognized by the country. It was due to the securely defended condition of the Japanese ports that the Japanese fleet was free to seek out and watch its proper objective—the Russian fleet—without fear of interruption or recall to guard its home ports against raids by the Vladivostock squadron. This, one of the most valuable lessons of the late war in the East, is worthy of serious consideration by our country, with its extensive coast-line, its many important harbors, and its many wealthy manufacturing coast cities."

RECORDS NEVER SURPASSED

Notwithstanding the excellence of naval gunnery, the officers of the army hold that their branch of the service can shoot farther and straighter than the gunners of the navy.

The navy has recently demonstrated in battle practice at 5,000 to 9,000 yards that it can make three hits out of four shots, and better, with 12-inch shells, the target being thirty by sixty feet in size. That kind of



A BATTERY OF 12-INCH DISAPPEARING GUNS IN ACTION

shooting should be sufficient to win any engagement, for probably no other navy can shoot so well. But the coast-defense gunners say that they can do better, and they have some interesting records to show.

Every year the coast defense has regular target practice with the 10-inch and 12-inch rifles. Not many years ago ships would not have hesitated to sail in close and engage in artillery duels with the forts, as the United States ships did with the Cuban forts and those at Manila. Perhaps the gunners in the forts which protected the coast-line and harbors of the United States could have done better shooting then, had they been given the chance, but it is certain that were hostile fleets to try to "run" the forts now they would very quickly be annihilated.

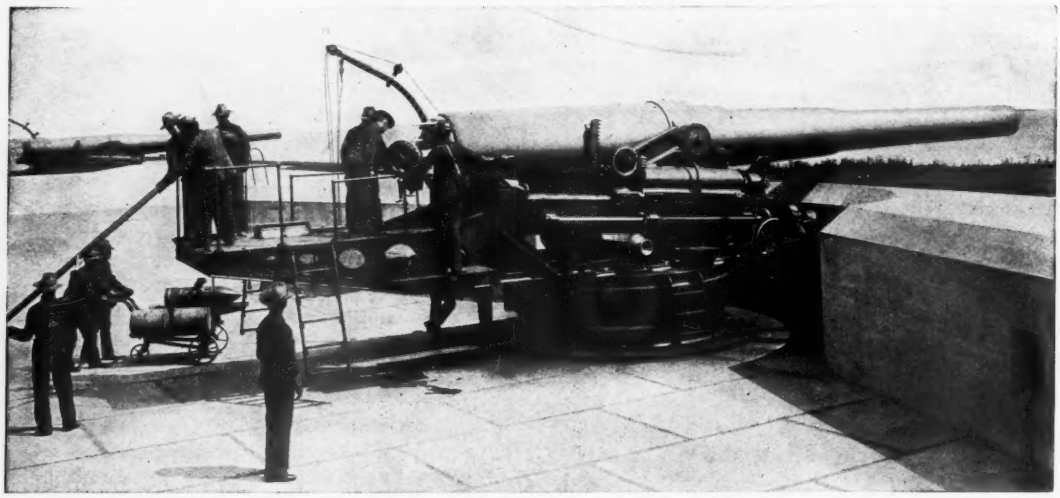
Such is the extreme accuracy of the great rifles and the nicety of the mechanical equipment by which they are manipulated, that —given the range, the force of the wind, and the size and explosive values of the charge of powder to be used—the gunners can send a 12-inch shell through the opening of an ordinary barn-door (or the hatch of a ship) at a distance of five miles and not mar the paint on the casing. More than that, it has been proved possible, by recent practice, to put shot after shot into the small space covered by an armor plate (one yard by four) at a distance of three miles. At the recent army target practice, four batteries made 100 per cent. (perfect scores) at ranges of from three to four miles, using moving targets towed over the ranges at unknown distances, which were calculated by the range-finding system in use by the coast-defense service. From official sources it is learned that the followings scores were made:

Winthrop Battery, Fort Banks, Mass., June 27, 1907, 12-inch rifles. Mean range, 5,978 yards, percentage, 100; maximum range error, 8.4 yards.

Butterfield Battery, Fort H. G. Wright, N. Y., Aug. 13, 1907, 12-inch rifles. Mean range, 6,603 yards, percentage, 100; maximum range error, 61.3 yards.

Battery Hitchcock, Fort Strong, Mass., July 16-17, 1907, 10-inch rifles. Mean range, 6,123 yards, percentage, 100; maximum range error, 11.5 yards.

Battery McIntosh, Fort Dade, Fla., Aug. 1, 1907. Mean range, 6,167 yards, percentage, 100; maximum range error, 70 yards.



PREPARING TO LOAD ONE OF THE BIG DEFENDERS
The projectile and powder are brought in on trucks

When Brigadier-General Arthur Murray, Chief of Artillery, referred to the first of these records in his annual report, he remarked that it was likely to be rarely duplicated; yet before the report was published he was able to add that another score had been received which was even better than the first one that aroused his admiration, and still another nearly as good. Later on, another battery at San Diego also made perfect score.

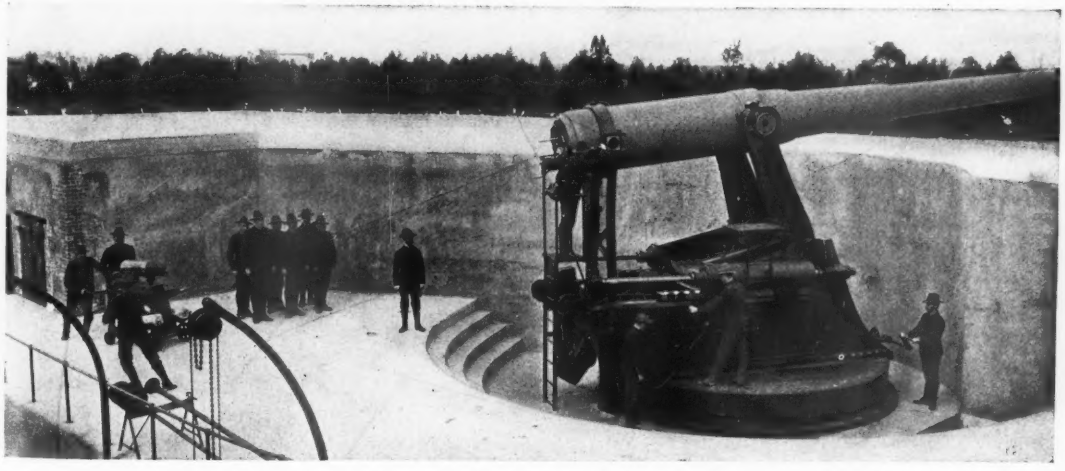
It is admitted that such scores were thought impossible only a short time ago, and that even

RAMMING THE PROJECTILE INTO THE BREECH

Even while it is being loaded, the gunner at the sight and men at the wheel keep the muzzle pointed at the target

now they are exceptional; but to prove the assertion of the Chief of Ordnance that modern cannon are " instruments of precision," reference is made to the fine shooting done on October 25, 1907, with two 8-inch guns, by the 111th Company, Coast Artillery, Battery McIntosh, Fort Dade, Fla., Captain J. C. Johnson commanding.

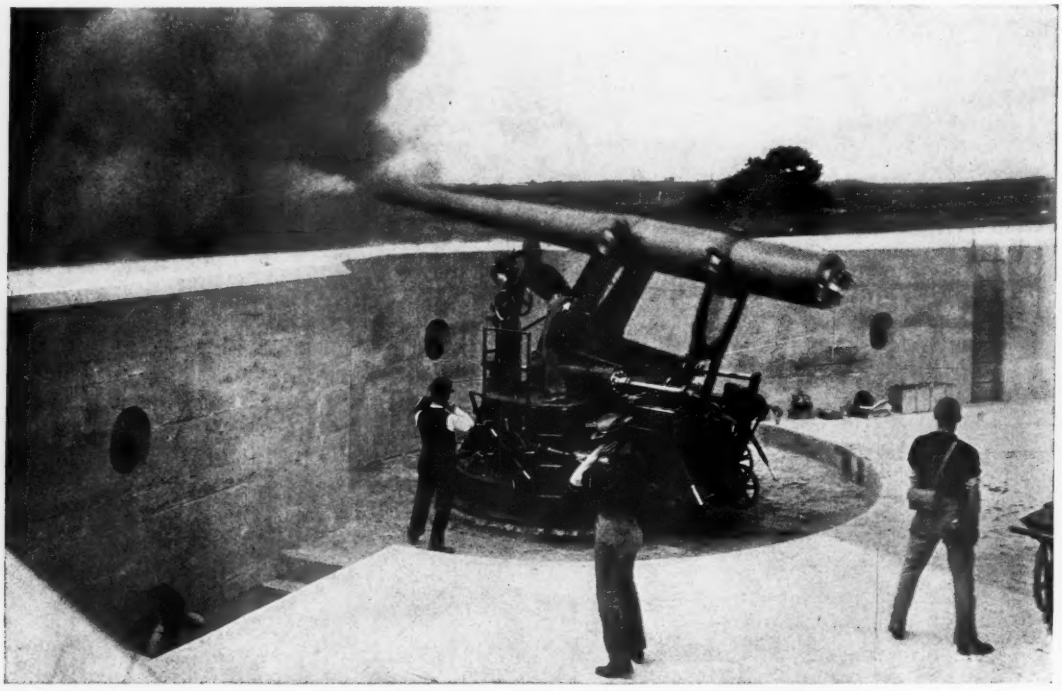
The range was about 6,000 yards. As usual, three trial shots were taken to determine powder values, distance, and other conditions, and the range was so nicely calculated that two of the shots struck in the same place and the third not more than three yards beyond. The record practice then opened. The first two shots not merely made "hits" (striking within the space covered by a hypothetical battleship) but actually went through the small triangle of canvas used as an aiming point and corresponding to the bull's-eye in ordinary rifle practice. The second shot caused the breaking of the cross wire in the telescope, resulting in the gunner getting off the target, but he caught the range again and the fourth shot found the target. But for the accident, which the company, under the target practice rules, could not stop to repair, the score would probably have been four straight bull's-eyes. This magnificent shooting is regarded with the greatest pride by the whole Coast Artillery Corps.



THE GUN APPEARING ABOVE THE WALL, READY TO BE FIRED

The mechanism is so adjusted that the great mass of steel is raised almost without effort and the men in charge of it see that the muzzle remains on the target

A still later record was made November 16th, 1907, at Fortress Monroe, which is held to eclipse all previous achievements with heavy ordnance. An unofficial preliminary report by Captain Charles E. Kilbourne, 35th Coast Artillery, conveyed the information that at about 6,000 yards his battery of 12-inch rifles had made the unprecedented record of hitting the target at the rate of 1.74 shots a minute. This is approximately at the rate of a shot every 35 seconds, which is about five seconds faster than any other record at hand.



THE GUN RECOILING JUST AFTER BEING FIRED

The recoil causes the gun to drop back out of the enemy's view, but the gunner keeps it always pointed at the target

Very effective, also, are the mortar batteries. These weapons are assembled in pits, four of them to a battery. The mortars are directed and fired from information given by the range-finders. A salvo from four mortars is calculated to have practically the same chance of making a hit as a shell from one 12-inch rifle, the latter being used with greater certainty of aim than the mortars. Incidentally, it must be evident that the range of the mortars is also greater, they being most effective at 8,000 to 12.000 yards.

THE NEW SCIENCE OF GUNNERY

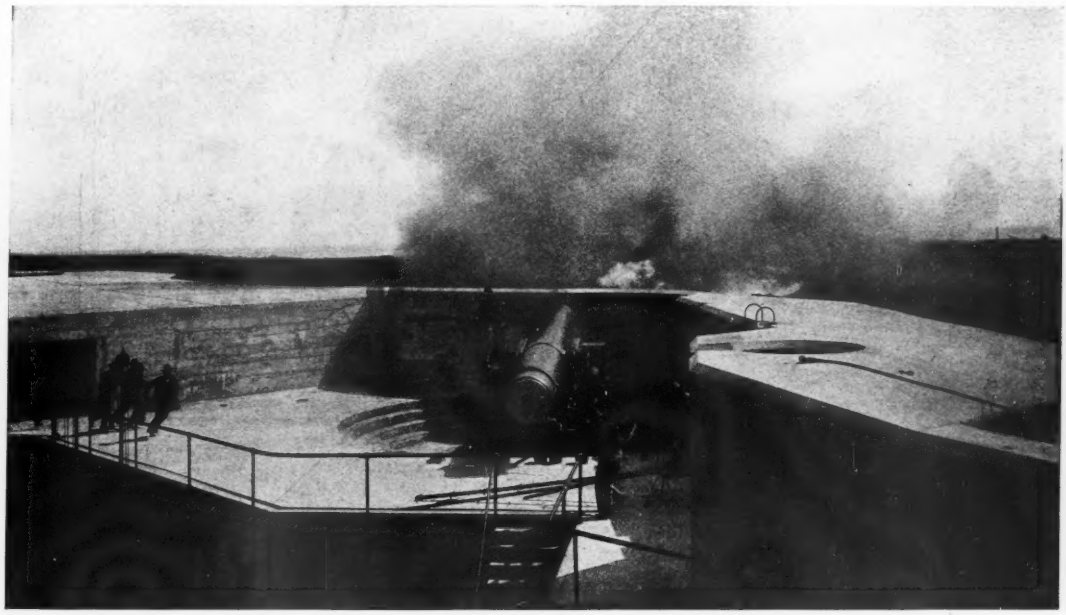
Gunnery is no longer a matter of guesswork. It is a scientific calling where the ranges are worked out by higher mathematics. The work of aiming, loading, and firing is so carefully systematized that even the powder, before it is used, is tested and blended; the grains are counted and carefully divided among the charges, and finally repacked in tightly-laced sacks of raw silk for loading to insure uniform results from all charges. This is done because the chemical changes taking place in the powder after it has been stored alter its explosive values. In target practice, trial shots test the range and the powder values.

The greatest factor in the increase of efficiency has been the adoption of an effective range-finding system. The old system included an ordinary plotting-board, operated in connection with observers at the ends of a base-line measured off along the shore. Ordinary railroad transit instruments were used to make the observations, and the results were transmitted to the plotting-board operators by "wig-wag" signals. Firing was done at fixed targets anchored at known distances, without time limits. The pointing of the gun was so connected with the work of the operators at the plotting-board that an excessive amount of time was required to point the gun,

with proper corrections applied. Accuracy of fire was determined by observing "overs" and "shorts," of splashes and "slicks," and corrections for succeeding shots were based on such observations. The gunner pointed his piece by a direct sight, using the "tangent angle." These observations apply to the period from 1897 to 1900.

The change that has taken place is nothing less than revolutionary. The equipment for range-finding has been greatly developed, and an improved plotting-board has been introduced from three to five minutes; now they can be fired at intervals of from forty seconds to one minute. Then they fired at ranges of about 4,000 yards; now they shoot at 5,000 to 10,000 yards. To sum it up in a few words, the coast-defense artillery can now shoot *sixteen times better at double the distance* than it could seven years ago. This means, of course, that a 10-inch or 12-inch gun can now make sixteen times more hits per minute than under the old system.

The problems to be worked out by gunners



THE GUN IS READY FOR RELOADING BEFORE ITS SMOKE DISAPPEARS

The gun detachment on the left returning on the run

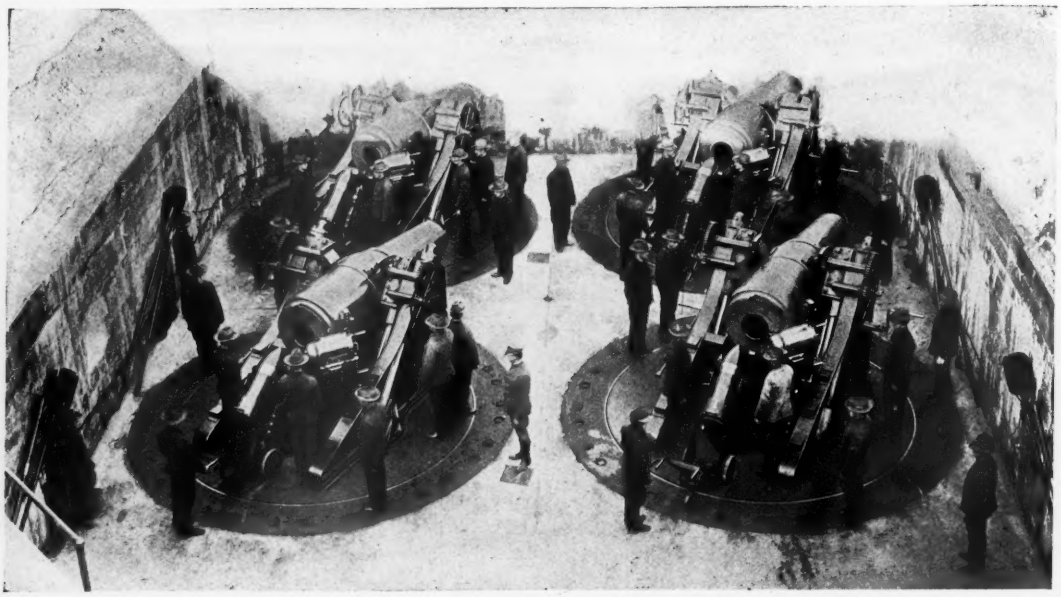
which accurately and quickly solves the range triangle and applies all corrections for range and deflections expeditiously. Instead of "wig-wagging" signals, observers now are in communication with the plotting-board and gun-platform by telephone.

By the introduction of this improved range-finding device, the gun system has been so much modified as to enable the gun to be fired independently of the range-finding. In other words, the rate of fire is dependent solely on the rapidity with which the gun can be loaded. Practice is now held with moving targets at unknown distances, and there is a larger percentage of hits now than there was formerly with stationary targets at known distances. Formerly the big guns were fired but once in

involve intricate calculations. Here is one of the simple problems designated by Lieut.-Col. Lissak, of the United States Military Academy:

"Correct the ballistic coefficient for altitude, and determine the angle of elevation required in order that a 1,048-pound projectile fired from the 12-inch rifle with a muzzle velocity of 2,350 foot seconds may strike a target distant 12,000 yards; the atmospheric conditions at the time of firing being barometer 29.5″, thermometer 67 degrees F."

The present system of coast-defense gunnery was introduced and developed at Fortress Monroe in 1900-1902. Much of the credit for working out the new system belongs to Colonel Erasmus Weaver, now Assistant Chief of Artillery. The head of the bureau,



A MORTAR BATTERY AWAITING THE COMMAND TO LOAD

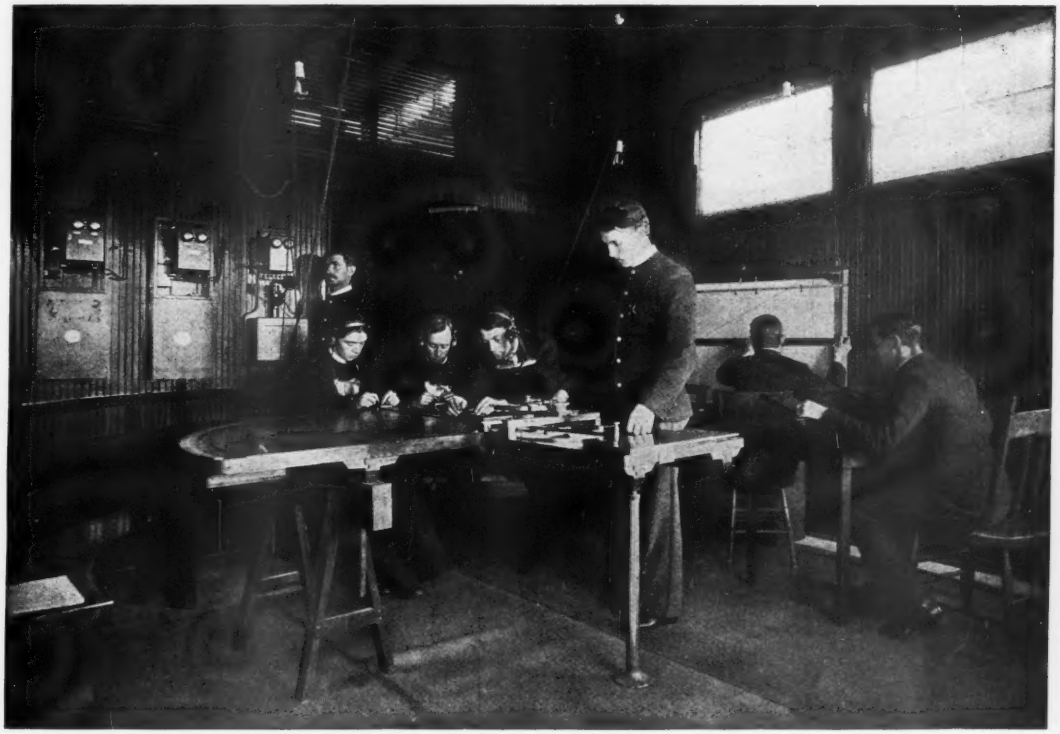
A MORTAR BATTERY AWAITING THE SIGNAL TO FIRE

The muzzles are pointed skyward, but the gunners have calculated mathematically where the shells will drop

Brigadier-General Arthur Murray, has also done much in a practical way to bring his department to its very high state of efficiency. His own specialty is submarine mines, and experts say that the United States now has certain improvements which place it in the lead of any other country with respect to that kind of defense.

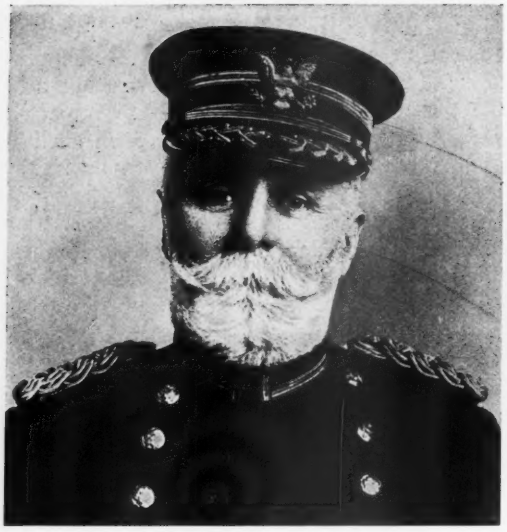
HOW GUNNERS GET THE RANGE

The range-finding system is comparatively simple. A base-line of any desired length is laid out, and at each end of it an observer is stationed in telephonic connection with the plotting-board. The observers take the angle made by the target with the base-line, and telephone it to the plotting-board, where it is used to work out the location of the target. This, communicated every ten seconds to the gunners, gives them the information which they need for pointing their guns. As a ship cannot change its course or speed materially in a few seconds, it is quite practicable for the plotting board to indicate the position of an enemy —or a target representing one—for ten, twenty, or even thirty seconds in advance. The gunners are therefore able to aim at the spot where the target will be at the time the projectile will strike. The speed of a 12-inch shell is approximately half a mile a second; if the target be five miles distant, the projectile would require ten seconds to cover the intervening distance. Therefore, by giving the gunners the location of the target for periods of ten seconds in advance, it is evident that both time and space are annihilated, and the possibility of making perfect scores is explained. At target practice the gunners do not use a material target. It would be impossible except at prohibitive cost, to provide a target the size of a battleship or to tow it over the course at the speed desired; and it has not been found practicable to shoot at real ships, even condemned ones. Instead, three floats are fastened together at equal distances by a cable, the entire distance from the first to the last being equivalent to the length of a battleship.



"TRACKING" A TARGET-SHIP IN THE "PLOTTING-ROOM"

It is by the mathematical work of this detachment, as well as by the mechanical work of the men behind the gun, that perfect scores are made possible



BRIGADIER-GENERAL ARTHUR MURRAY
Chief of Artillery and a specialist in submarine mines

THE BREECH OF THE 16-INCH RIFLE
Showing the wires which make the electrical connection of firing

Each float supports a triangle of canvas about nine feet on a side, and the central triangle is the mark for the gunners. A tug tows the target over the range at varying speeds and in different directions, the idea being to give the range-finders as severe tests as possible. On the tug is a board of officers who observe carefully where the shots strike; the average of their reports constitutes the official score.

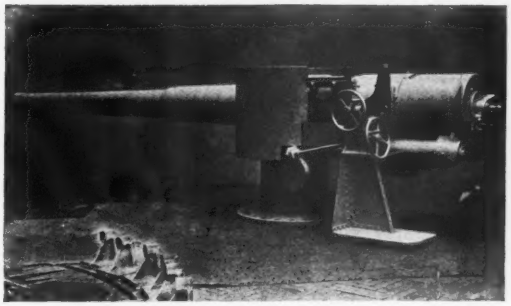
New ideas are constantly being "tried out" in the artillery service. A recent invention to enable the artillery officers to follow the course of a shell by day or night is a small tube to be attached to the base of a shell. When the gun is fired, the tube begins to give off an intense magnesium light by night, and a black smoke by day, and the course of the shell can thereby be distinctly observed.

An important and even picturesque feature of the coast-defense system, introduced recently but now considered indispensable, is the use of powerful searchlights. They are being provided for all coast forts. These great searchlights enable the gunners to aim accurately at even the ultimate effective range of 12,000 yards. In case of fogs and stormy weather the utility of the searchlights is, of

THE LARGEST DEFENDER OF THE AMERICAN SEABOARD
The 16-inch rifle at Sandy Hook, which has been fired but four times. Its cost was $170,000

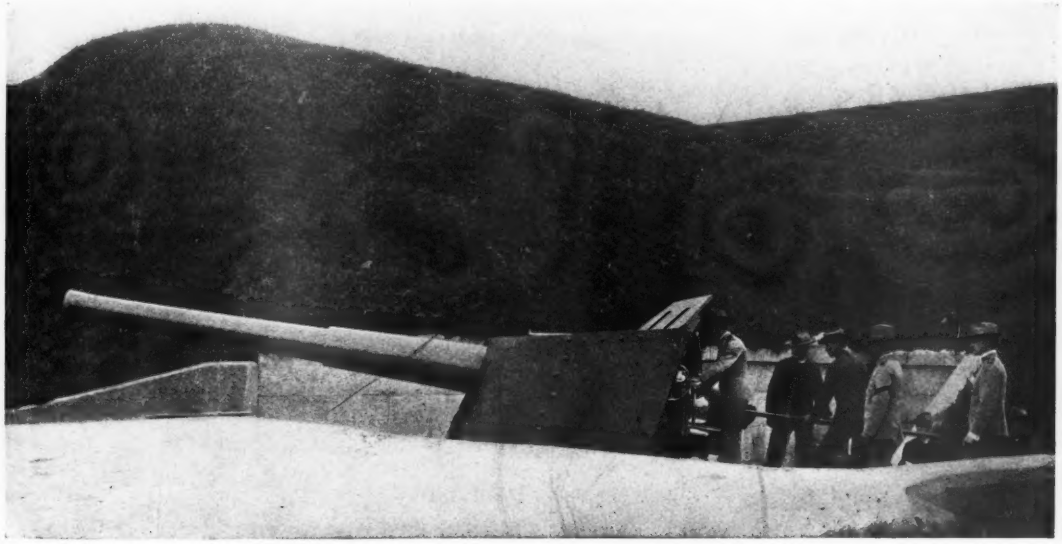
course, impaired. To prevent hostile ships from slipping into the harbor at such a time, 5-inch and 6-inch rapid-fire guns are placed where they can deliver a raking fire up and down the shore-line. Mines are also planted thickly where the depth of water and strength of currents permit their use, and scout-boats might be employed to patrol the channel and its approaches. These small, swift boats, equipped with wireless telephones, could render efficient service. On discovering an enemy they could slip away in the fog without being seen, for a big ship is, of course, visible much farther than a small boat. Once the forts know the location of an enemy's ship, they can shoot as straight at it as if it were visible, this being possible with the aid of the plotting-boards and range-finders. It is also probable that any hostile ship which enters the zone of the mine fields would be blown up before it could go very far.

The most formidable of all the coast-defense weapons is the 16-inch gun, constructed by the Army Ordnance Department, the only one ever built and perhaps the only one that ever will be constructed. Its cost was about $170,000, although part of this sum was for special machinery which would not need to be duplicated if more guns of that calibre should be built. This gun has been tested at the Sandy Hook proving grounds, and it is said that it can throw a ton of steel to an extreme range of twenty-one miles, while it has an effective range of twelve miles. It has been fired but four times. The gun forms part of the defenses of New York. A model of it was on exhibition at the Jamestown Exposition.



A 6-INCH GUN ON CENTRE-PIVOT MOUNTING

Big as are the 12-inch guns, the Ordnance Department has decided to replace them with 14-inch guns. The use of the high explosives causes intense heat and the generation of gases which have an erosive action on the lining of the guns. With heavy charges of powder, the guns would be burned out with about sixty shots, or in less than an hour's engagement, if fired to the full limit of their capacity. By using lighter charges, the life of the guns would be prolonged but the projectiles would not have sufficient power of penetration to pierce the armor of modern battleships. With the 14-inch guns, however, a smaller charge would still send a



A 6-INCH ARMSTRONG RIFLE WITH ARMOR-PLATE SHIELD
At Fort Wadsworth, Staten Island, N. Y.

LOADING THE POWDER CHARGES
The powder is made in blocks, perforated in the centre

projectile weighing 1,660 pounds, loaded with high explosives, with enough force to go through the heaviest armor, and the damage to the gun would be much less than would result from a charge in the 12-inch gun heavy enough to give similar results. The 12-inch guns can throw a half-ton explosive steel shell at a muzzle velocity of 23,000 feet per second, which gives sufficient momentum to insure the penetration of twelve inches of chilled-steel armor at a distance of 8,700 yards, or seven inches of similar armor at a distance equal to the longest fighting ranges. But it is not enough merely to send a missile through the enemy's armor. Battle projectiles are fitted with fuses which can be adjusted to explode the shells with terrific effect at any moment desired after they have pierced the enemy's armor, and these deadly shells can be thrown with almost perfect accuracy every forty seconds from every gun that can be brought to bear on the enemy.

It is evident that mixed land and naval battles in the future must be short and decisive, if they occur at all.

The recommendation of the President that the pay of the enlisted men (as well as of the officers) of the army and navy be substantially increased has a direct bearing on the question of marksmanship. It has been shown that the remarkable records made by gunners in both branches of the service are due largely to individual training and practice, yet many of these men are allowed to drop out of the batteries and the battleships every year, at the expiration of their enlistment. If the increased pay helps to retain in the service a larger percentage of expert gun-pointers, the expenditure will prove a wise investment.

FORT HANCOCK, SANDY HOOK, FROM THE EXTERIOR
The terraced slopes give no hint of the engines of destruction beyond the wall

THE PROVISION BOATS FOLLOWING THE ENGINEERS

AN AIR-LINE ACROSS THE EVERGLADES

A STEP IN THE RECLAMATION OF AN EXTENT OF FERTILE SWAMP-LAND AS LARGE AS THE BRITISH ISLES

BY

WILLIAM ATHERTON DUPUY

AFTER struggling for fifty-two days through the mud of the saw-grass solitudes of the Everglades, sleeping on the piles of grass that sometimes reach above the water-line, eating scant rations packed on their backs and cooked with difficulty over an oil lamp, a party of Government engineers has succeeded in running an air-line from the Gulf to the Atlantic through the most inaccessible portion of the Florida peninsula. This is the first step in the reclamation of 77,000,000 acres of the most fertile land in the United States —a region greater in extent than the whole of the British Isles.

The figure named covers only the swamp land east of the Mississippi that is readily reclaimable. In extent it equals the combined areas of Indiana, Illinois, and Ohio. It is greater than New England and New York combined, and its soil is rich with the sedimentary and vegetable deposit of the ages. It would provide forty-acre farms for 2,000,000 families—enough to relieve congestion and poverty in all the crowded cities of the country. Similar lands already reclaimed in New Jersey and New England are yielding $100 an acre every year and bring higher prices than any other land in the community.

The Government engineers have spent much time in working out a practicable plan for the reclamation of the Florida Everglades, which is the greatest single body of swamp lands in the country. The records of previous surveys were fragmentary and unreliable. As the first step in the undertaking, therefore, two young engineers—Mr. Lawrence Brett, of Kansas, and Mr. E. Wallace Chadwick, of Pennsylvania—were designated for the difficult task of running an air-line all the way across the glades, establishing levels and leaving bench-marks for those who might follow. Mr. J. O. Wright, supervising drainage engineer of the Department of Agriculture, had direct oversight of the undertaking.

The actual work was done in the late winter of 1906 and early spring of 1907, that time of the year being the dry season. The Everglades are then covered with less water than at any other time, and a surveying party is able to get a footing on the ground and the weather is sufficiently cool to make work possible.

The young engineers and their four assistants made the start from Brown's Store, a settlement on the west side of the great swamp. Opposite this point, sixty miles due east, as the crow flies, is Pampano, a similar settlement on the Atlantic coast. Between the two points is the desolation of a great waste, a region practically unknown to the white man but through the solitudes of which the lone

Photograph by Julian A. Dimock

AN EVERGLADE FIRE, PROBABLY SET BY HUNTERS

Seminole Indian now and again silently pushes his canoe.

Water covers the entire country during the rainy season. The waters of Lake Okeechobee, to the northward, extend in shallows far to the south when the flood-time comes, but gradually recede during the dry season, there being a difference of nearly three feet in its levels in the two seasons. At the close of winter, when the water is lowest, the heart of the Everglades is half land, half sea. There are shallow lakes, called "bonnet flats," with sluggish streams known as "leads" connecting them. Between these the land rises slightly above the water but it is a spongy muck where a man sinks half way to his knees at every step. There is the eternal landscape of saw-grass five feet high, broken occasionally by a scraggly tree.

For a trip into the Everglades the only way to transport provisions is by canoe, and even this method is at times impossible where it is necessary to follow an air-line and the streams have strange and unknown windings. The party started out with Seminole canoes, which were dragged by land where they could not be poled by water. Dried fruits and staples, oil for fuel, and blankets for beds made up the cargoes of three canoes.

Progress was slow in the face of the many difficulties that the party found. They rarely covered more than two miles in a day, often not more than a mile. When the day's tramping was over, much of the night was consumed in the preparation of the camp. It was impossible to build a fire, because there was rarely dry land upon which to build it or wood with which to make it. In these emergencies the oil lamp was used to cook the meals, but an "oil famine" soon began to threaten them. When supper was over, the problem of lodging was solved by cutting sufficient saw-grass to raise the blankets above the water-level. The structure when completed was known as a "'gator nest" because of its resemblance to the homes of the alligator, which were often stumbled upon. The contest between weariness and safety from dampness was often sharp, and it occasionally resulted in an exhausted man sleeping with his body half sunken in water. Mosquito-bars were used with more or less success in the effort to escape the vast swarms of mosquitoes.

At the end of ten days the line had been pushed eighteen miles into the swamp, the

THE ENGINEERS WHO RAN THE LINE
Messrs. Brett and Chadwick, of the U. S. Department of Agriculture

oil supply was exhausted, and the party was living on uncooked food. A return to the starting-point for new supplies was made by the entire party, three days each way being consumed by the trip. With fresh supplies in the canoes, the line was then pushd on; this was the last view of the west side of the peninsula.

At the 25-mile mark, it was found impossible to carry the canoes farther, for there were no more "leads" running to the eastward. Two men walked eastward for half a day and found no water that would float the canoes. With the greater part of the journey yet ahead of them and a month already spent in the saw-grass, it was decided to carry upon their backs the supplies, bedding, and oil for the remainder of the trip. With these additional burdens to carry as they worked, the advance was even slower than before.

THE PARTY READY TO START

HAULING A BOAT OVERLAND WHERE THERE WAS NO "LEAD"

But the party pushed the air-line forward and established levels so long as there was a handful of rice or a piece of bacon left; but when twelve miles more had been covered there was nothing to eat and the undertaking was far from complete. Then the line was temporarily deserted and a run was made for the Atlantic side—Pampano and food.

This run involved probably the greatest hardships of the undertaking. The men were already exhausted from want of sufficient food and rest. They had been so long in the water that their feet were blistered and swollen, the discomfort having been accentuated by poisoning from "wampee," a plant similar to the Indian turnip. The swamp here became more difficult to cross, for the "leads" were deeper and the ground was more boggy. In many places it was necessary for the men to carry their blankets and mosquito-bars high above their heads while they waded in "leads" up to their chins. In other places the ground was so boggy that they were forced to lie flat and crawl or roll to keep from sinking so deep in the mud that they would be unable to extricate themselves.

"THE LONE SEMINOLE INDIAN"

The exhausted party finally struggled from the swamps up to the strip of higher land that runs along the eastern shore of Florida, and soon found their way into Pampano and secured food. After three days' rest the return was made to the line and it was finally brought out. The engineers had established a new standard of endurance and perseverance in the Government service.

With this air-line as a starting-point, 30,000 square miles of swamp-lands in Florida may now be reclaimed and eventually converted into a garden of productiveness. It is sufficiently above the level of the sea to make it drain readily if the outlets are opened up. Lake Okeechobee is itself twenty-two feet above the sea and can be largely drained. There are no difficult engineering problems to overcome; it is only necessary to cut through a rim of rotten limestone that extends along the Atlantic coast and thus make a natural outlet. Then will remain the simple work of making ditches to tap the interior, or else the same result will be accomplished by developing the natural arteries.

Swamp lands in the other states offer similar difficulties, but on a smaller scale. The Dismal Swamp in Virginia is fifteen feet above sea-level, and Lake Drummond, its chief body of water, is half artificial. A canal leads from this lake through a lock and is several feet below its level. A removal of this lock would do much toward draining the great swamp.

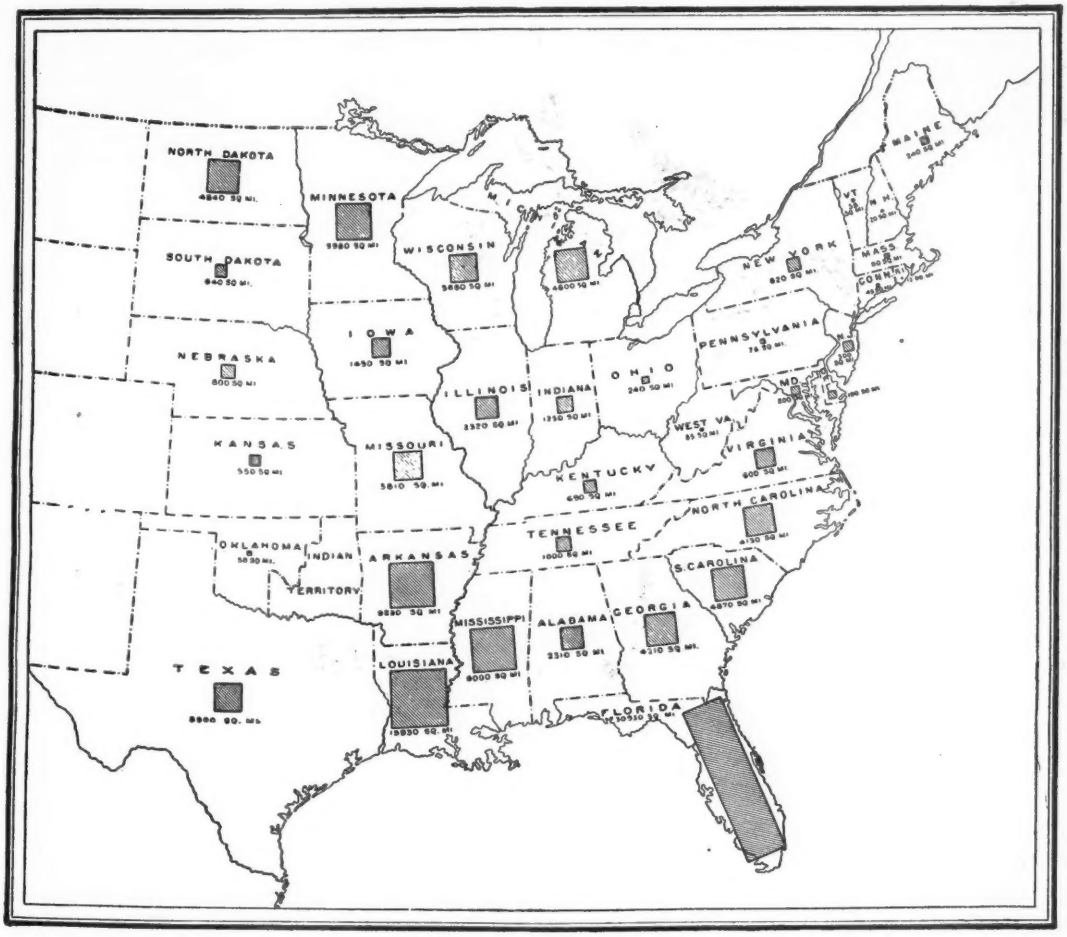
Salt marshes in many sections along the Atlantic seaboard have been reclaimed by private enterprise. The Newark meadows are to be converted into town lots by means of a dyke and an arrangement of automatic tide-gates to be installed under the direction of the Government engineers and financed by the neighboring city of Newark, N. J. This piece of work will be made an object lesson to show the possibilities of salt-marsh reclamation, and many communities are expected to follow the example. Long Island has already completed much of this kind of reclamation, and so has Massachusetts. The prosperity of Holland rests upon just such work. As a financial investment, the reclamation of these lands pays manyfold,

at the same time the mosquito nuisance is done away with and the health of the whole community benefited.

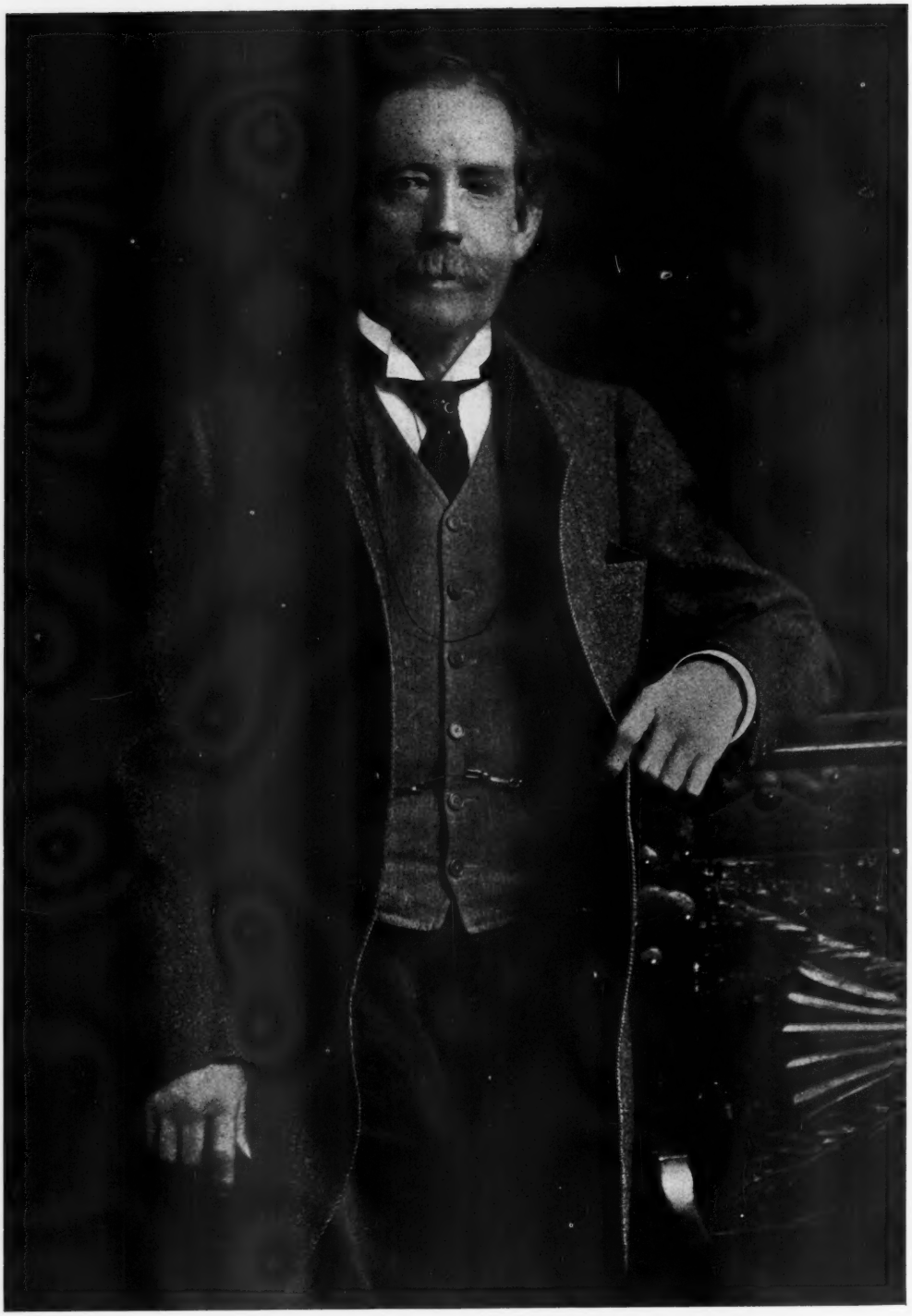
There is no doubt that the whole question of the reclamation of the swamp lands of the United States will be urged upon Congress at this and at subsequent sessions, until it is finally accomplished. There is no difference of opinion on the part of the engineers who have investigated the conditions; their recommendations are unanimously in favor of immediately pushing the work. It is not considered necessary to place the undertaking in charge of a special division like the Reclamation Service, for the engineering plans are nowhere difficult and may be handled readily by the Department of Agriculture. Swamp drainage is currently regarded as purely an agricultural function.

DRAINAGE OF PRIVATE LANDS

Practically all the lands that will be affected by drainage are already privately owned, and the expense of reclamation will naturally be assessed against their owners. Such was the plan followed in the reclamation of arid lands privately owned, and the results are so favorable that there is no question of practicability. It has been proposed that this plan be supplemented by an offer on the part of the Government to take the bonds of any given community which proposes immediately to reclaim its swamp-land under the direction of the Government engineers.



MAP SHOWING THE AREAS OF SWAMP AND OVERFLOWED LANDS IN THE STATES EAST OF THE ROCKY MOUNTAINS



GENERAL WILLIAM J. PALMER, OF COLORADO SPRINGS

GEN. WILLIAM J. PALMER, A BUILDER OF THE WEST

A DISTINGUISHED OFFICER OF THE CIVIL WAR, A CONSTRUCTIVE FORCE IN WESTERN RAILROADS AND CITIES, AND A CITIZEN AS HIGH-MINDED AS HE IS GENEROUS

THE career of General William J. Palmer, of Colorado Springs, is that of a man who has done big things in his time and who, throughout a long life, has shown that great force of character and great power of achievement are not inconsistent with gentleness and courtesy, or with modesty and unassuming philanthropy. A distinguished cavalry officer during four years of the Civil War, the former president of railroads and iron works, the founder of towns and cities, and patron of a college, he has so consistently shunned publicity that he is not as well known, even in Colorado, as many a man of less high character and fewer good works.

General Palmer was born near Leipsic, Del., in 1836, and received his education mainly in Philadelphia. When seventeen years old, he entered the Hempfield Railroad Engineer Corps as a rodman. Three years later, he went to England, where he spent a twelvemonth in travel and study. When he returned home he was made secretary and treasurer of the Westmoreland Coal Company and a year later became private secretary to John Edgar Thompson, then president of the Pennsylvania Railroad Company. Mr. Carnegie was at that time secretary to the vice-president.

Young Palmer was in his twenty-fifth year at the outbreak of the Civil War. Shortly after the battle of Bull Run he recruited and was made captain of the Anderson troop of light cavalry, which saw service in the Nashville and Shiloh campaigns. In 1862, at the request of General Rosecrans, Captain Palmer organized the Fifteenth Pennsylvania Cavalry, which helped to turn back the Confederate invasion of Maryland at Antietam.

The day after this battle, Captain Palmer was detailed by General McClellan for "special duty within the enemy's lines" — a mark of confidence which resulted in his being captured and held as a prisoner of war until January, 1863. Upon his release he returned at once to active service in Tennessee, under General Rosecrans, as colonel of the Fifteenth Pennsylvania. He rendered distinguished service in the battle of Missionary Ridge and in the fight against General Longstreet during the winter of 1863-64.

During the Atlanta campaign, however, Colonel Palmer made his most brilliant record as a soldier. Starting from Lookout Mountain in pursuit of General Hood's army, he burned the headquarters' pontoon train, destroyed a supply train near Aberdeen, Miss., and finally routed the Confederate cavalry forces under Generals Russell and Lyon. In recognition of these services, he was made a brigadier-general, when in his twenty-ninth year. After the surrender of General Joseph E. Johnston, General Palmer was placed in command of the troops sent in pursuit of Jefferson Davis. The pursuit ended when the President of the Confederacy was driven into the hands of General Wilson. That capture was the climax to General Palmer's services as a soldier.

Of his war record, General George H. Thomas, "the Rock of Chickamauga," wrote: "There is no officer in the regular or volunteer service who has performed the duties which have devolved upon him with more intelligence, zeal, or energy than General Palmer, whose uniform distinguished success throughout the war places his reputation beyond controversy." The esteem of the men who followed him was shown by the remark of a veteran at the recent reunion of his regiment. " 'General Palmer,' as you Colorado people call him, is proper, of course, but *we* love to call him by the title he is most proud of — *Colonel* Palmer."

AS A RAILROAD BUILDER

But General Palmer's greatest triumphs have been in the constructive work of peace. Upon being mustered out of the army, young

Palmer became treasurer, director of surveys, and manager of construction for the Kansas Pacific Railroad, which has since become the Kansas division of the Union Pacific. Under his supervision, the Kansas Pacific was completed to Denver, in 1870.

The principal city of Colorado had then two railroad connections with the East, for a branch had just been completed from Denver to the main transcontinental line of the Union Pacific at Cheyenne, but the need of another railroad was imperative. General Palmer seized the opportunity and, with the coöperation of Governor A. C. Hunt, Colonel A. C. Dodge, Colonel W. H. Greenwood, and others, organized (in 1870) the Denver and Rio Grande Railroad Company and was elected president. He secured the large sums of money necessary for beginning the construction of what was the first narrow-gauge (three feet) railroad in the West, from Denver south along the base of the Front Range and across what is now called the Palmer Lake "divide," which separates the watersheds of the Platte and Arkansas rivers.

FOUNDING COLORADO CITIES

Meanwhile subsidiary companies for developing town sites were organized by General Palmer. He conceived the idea of laying out a summer resort about the springs at the foot of Pike's Peak, and this he named "Manitou." Just to the east of Manitou was the town of Colorado City, for a time the capital of Colorado, having been founded in 1859 by those who had come west with the motto "Pike's Peak or Bust!" — and had "busted." On the plains still farther to the eastward, five miles from the base of the great Peak, there was an ideal site still unoccupied. General Palmer and his associates here acquired large tracts of land and laid out the town of Colorado Springs. On August 1, 1871, the first stake was driven for the survey of Colorado Springs, which was planned to be what it has ever since remained—a delightful residence city for health-seekers. In 1871 the Denver and Rio Grande was completed to Colorado Springs;and during the next year to Pueblo on the Arkansas River. The later extension of the railroad south to the coalfields near Trinidad, west up the cañon of the Arkansas to other coal mines, and on across the mountains to the precious metal mines of Leadville is an important part of the economic history of the state; and it is also a story of discouragements and difficulties overcome by the courage and resourcefulness of General Palmer.

After the discovery of some iron mines at Orient, in Saguache County, and of the excellent coking qualities of the coal in the Trinidad region, both of which districts were reached by the Denver and Rio Grande, General Palmer helped organize the Colorado Fuel and Iron Company, of which he was the first president. In 1880 he and his associates laid out the town of Bessemer, now a part of the consolidated city of Pueblo, the second in size in the state. The one small blast furnace which his company built began to produce pig iron in 1881; the following year a bessemer department and rail mill began operations and they have continued without interruption. The industry, which owes its beginning, in a large measure at least, to the creative imagination and activity of General Palmer, has grown under other management until now the Colorado Fuel and Iron Company is the largest industrial corporation in the West, and its Minnequa Works at Pueblo is one of the greatest iron and steel plants of America.

In August, 1883, General Palmer resigned the presidency of the Denver and Rio Grande in order to push to completion the Mexican National Railway, of which for seven years he was president. In 1882-83, he had built the Rio Grande Western Railway from Grand Junction, Colo., the terminus of the D. & R. G. proper, on to Salt Lake City and Ogden — thus furnishing a through narrow-gauge line from Denver to Utah. When he resigned the presidency and disposed of his interests in the D. & R. G., he retained those in the Rio Grande Western, of which he was president from 1883 to 1901. In the latter year, when this road was sold to the Denver and Rio Grande, which was purchased by the Gould interests, General Palmer is reported to have realized several million dollars from his holdings, which in addition to his already large fortune made him one of the rich men of Colorado.

It was characteristic of him that at this time he should not forget the subordinates whose faithful services had helped him to gain great riches. Acting for himself and a few other large stockholders, he disbursed among 104 officers and several hundred employees, to each according to his length of service, the sum of a million dollars. At the same time, General Palmer provided a fund of several thousand dollars to

be distributed among the widows and orphans of workmen killed, several years before, in a coal mine accident at Pleasant Valley, Utah.

With these acts of generosity, General Palmer, then in his sixty-fifth year, retired to private life, though he still maintained an office at 11 Broadway, New York, and also one in Colorado Springs; but he saw no one personally on business.

In 1870 General Palmer had married Miss Queen Mellen, of Flushing, Long Island, who died in January, 1895. For himself and daughters he has recently rebuilt, near Colorado Springs, in a large tract of land whose natural beauty has been enhanced by the best landscape artists, a mansion modeled somewhat after Blenheim Palace. Although he has spent hundreds of thousands of dollars on spacious pleasure grounds for the public, he has laid out this place (which he calls "Glen Eyrie") for himself and family and his personal friends. He has let it be known in a thoroughly courteous way that he desires that there shall be no intrusions upon the privacy of his home, although his grounds are open to tourists, who come in large numbers. It is to the credit of his fellow-townsmen that there have been no attempts to photograph or to exploit in public a country-seat which is one of the most imposing and beautiful in America, but of which the general public, even of Colorado, knows nothing in detail.

HIS PUBLIC BENEFACTIONS

General Palmer's benefactions, amounting to several million dollars, have been unobtrusively placed. During the past few years he has given to Colorado Springs a system of public grounds and drives which would probably have been impossible as a public enterprise. Up to a year ago he had expended over half a million dollars on public playgrounds and roads in and about Colorado Springs, Colorado City, and Manitou. Nor does this include the recent gift of Manitou Park, valued at $100,000, for the uses of a forestry school, nor of other generous additions to the lands of Colorado College. He plans to expend at least another $500,000 on parks and boulevards in Colorado Springs. For some years he has had on his private pay-roll an average of 250 men constantly employed on public works, which has meant a monthly expenditure for labor and supplies of scarcely less than $15,000. It is understood that the General has made arrangements for an endowment fund for the maintenance of these works. Monument Valley Park — which with its ponds, lawns, terraces, and shrubbery, extends for two and a half miles northward from the D. & R. G. station between the right-of-way and the most attractive residence district — is so situated that every traveler on this railroad gains the impression of the rare beauty of Colorado Springs. Then there are other parks too numerous to mention in detail, and miles and miles of well-built, well-kept boulevards and trails over foothills and through cañons — all monuments to the public spirit of the city's founder. No other man or group of men in the Far West has done so much for good roads as has the man who years ago built Colorado's greatest steel highways.

For some years that part of Cheyenne cañon in which are the celebrated Seven Falls has been owned by a private syndicate, which extorts a twenty-five-cent toll from every visitor — an example of avarice that has been a source of deep annoyance to most of the citizens of Colorado Springs. Several times General Palmer made liberal offers for the purchase of the cañon in order to open it as a free park for the public. The price asked was so exorbitant, however, that the high-spirited General finally broke off negotiations, bought Cutler Mountain, and built over it a trail from which one can obtain an excellent view of the Falls.

FOUNDING COLORADO COLLEGE

When Colorado Springs was laid out, in 1871, under General Palmer's direction, a pleasant tract of twenty acres was reserved which it was hoped might prove an inducement for the foundation of a college. In 1874 the Colorado Association of Congregational Churches selected Colorado Springs as the site of Colorado College, of which General Palmer was one of the first trustees. In addition to several hundred students from Colorado and adjacent states, many boys and girls from the East who have been overtaken by ill health are enabled here, as in Colorado's other institutions, to continue their higher education. It is, doubtless, with this latter idea in mind, rather than with a desire to increase the number of small colleges, that General Palmer has given to the management the benefit of his counsel and business ability, and has also made to the college gifts amounting to more than a million dollars.

In connection with the dedication of one of the several buildings which he has given to the college, occurred an event which shows how the cultivated people of Colorado appreciate General Palmer's patronage of higher education and how highly they esteem him as a man. Ostensibly to help celebrate the opening of Palmer Hall, but really to honor its giver, more than two hundred college graduates resident in Colorado held an "intercollegiate dinner" in a hotel in Colorado Springs on February 22, 1904. On this occasion Harvard, with thirty-two representatives, had the largest number present. No one who was present can ever forget how those 200 college men sprang to their feet and cheered continuously for several minutes when the toastmaster called upon the gallant old General. Modestly as a girl, he expressed his appreciation with a simple: "Gentlemen, I thank you!"

In the fall of 1906, General Palmer met with an accident which rendered him a cripple. He was thrown from a horse and sustained an injury to his spine which brought on partial paralysis. For months his death was almost daily expected. Now, although somewhat better, he is confined to an invalid's chair and is able to go about only in a specially constructed automobile. Throughout this long period of pain his thoughts were ever of others and his hopes for longer life were inspired largely by his wish to carry on his public works.

HIS REGIMENT'S LAST REUNION

As he became better, however, the desire grew upon him to see once more the other survivors of his old regiment, the Fifteenth Pennsylvania. He was unable to undertake the long trip back to Pennsylvania, as had always been his custom in former years, but his comrades in many a fight felt that their thirty-fifth, and perhaps their final, reunion would be but a sorry affair without their colonel. So, in his usual princely fashion, General Palmer invited all the survivors to come to Colorado Springs as his guests from the moment they left their homes until they returned. It is noteworthy that 264, all but a very few of those who are still alive, accepted his invitation. From Pennsylvania and back again, General Palmer ran a special train and provided transportation for all the members of the regiment who lived in other parts of the United States. It has been estimated that the reunion that was held last August cost General Palmer about $40,000.

During the reunion occurred an incident which might have been exceedingly unpleasant but which gave an opportunity for General Palmer to show again his gentleness and generosity of spirit. For twenty years Mrs. J. A. Hayes has been one of the leaders in all that is best in the life of Colorado Springs. Entirely unaware of the fact that this gentlewoman, the wife of the city's most prominent banker, was the daughter of Jefferson Davis, one of the veterans hung in the rotunda of the hotel a framed copy of the proclamation offering a reward for President Davis's capture, which General Palmer had issued in accordance with orders from the War Department. Although the visitors doubtless regarded it merely as an interesting war relic, like a captured gun or flag, when General Palmer heard of its exhibition he at once made a request that it be removed. As was natural, however, the newspapers made a feature of this proclamation, which declared that the Bureau of Military Justice had "indubitable evidence" that Mr. Davis and other Confederates had incited Lincoln's murder.

Thereupon Mrs. Hayes wrote an admirable letter, full of self-restraint and concluding with a graceful tribute to General Palmer — "an ideal man, who spends his days in doing good deeds." In the course of her letter, Mrs. Hayes said:

"It may not be uninteresting to General Palmer's guests to hear how Jefferson Davis felt about this ill-timed and lamentable murder.

"I was a small child at the time, and, like most Southern children, I looked upon Lincoln as the arch-enemy of my country; and, thoughtlessly, as the servants and guards around us were rejoicing, I ran to my father with what I supposed would be good news to him. He gravely and gently took me in his arms and explained to me that this terrible deed had been done by a crazy man who, no doubt, thought he was the savior of the South, though really her very worst enemy. My father added, 'Always remember, my little daughter, no wrong can ever make a right. The South does not wish her rights to come through dastardly murder, but through fair fight.' Then he sighed deeply and said: 'This is the bitterest blow that could have been dealt to the Southern cause. Lincoln was a just man and would have been fair and generous in his treatment of the Southern people; his successor is a man we can expect nothing from.'

"Lincoln, who knew my father (would have known) . . . that Jefferson Davis and the

other Southern men accused were incapable of instigating murder . . . Jefferson Davis could never understand how such an impression could have gained foothold among the men who made history in the North, for many of them had known him and should have known that he was above so vile an action."

In response to this, General Palmer wrote a letter in which he said that it had been a long time since anyone believed that Mr. Davis had any responsibility for the assassination of Abraham Lincoln. When the veterans had their farewell reception at "Glen Eyrie," the daughter of Jefferson Davis was one of the honored guests.

THE GEOGRAPHY OF THE GREAT LANGUAGES

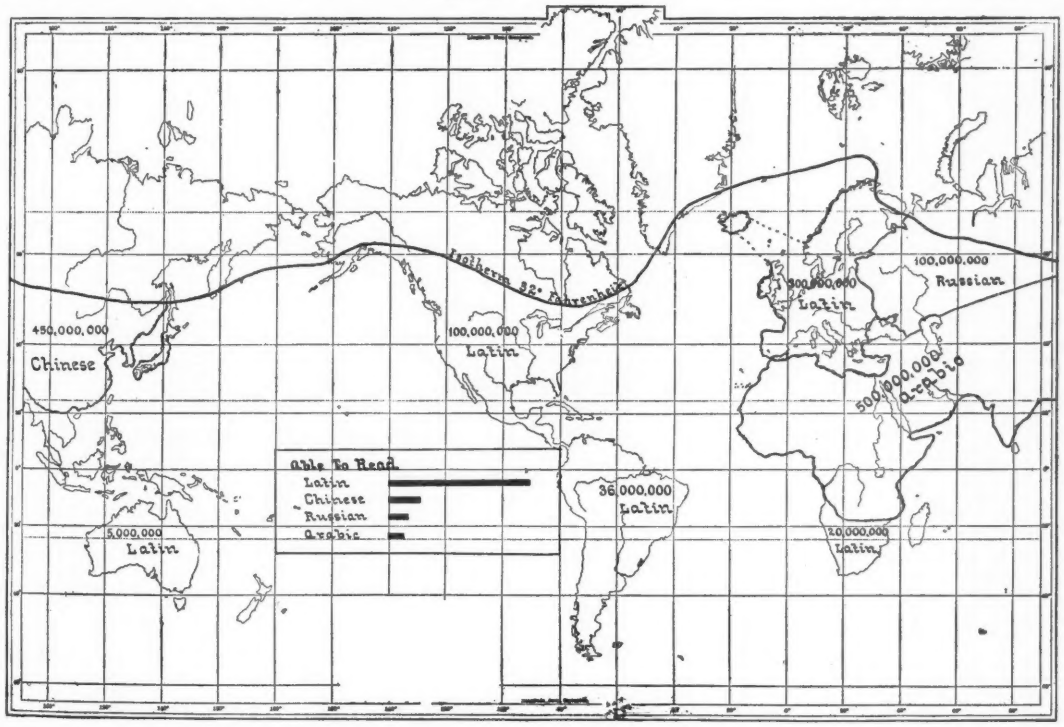
THE STEADY ADVANCE OF ENGLISH AS A UNIVERSAL WRITTEN LANGUAGE, AND ITS RELATION TO LITERACY

BY

E. H. BABBITT

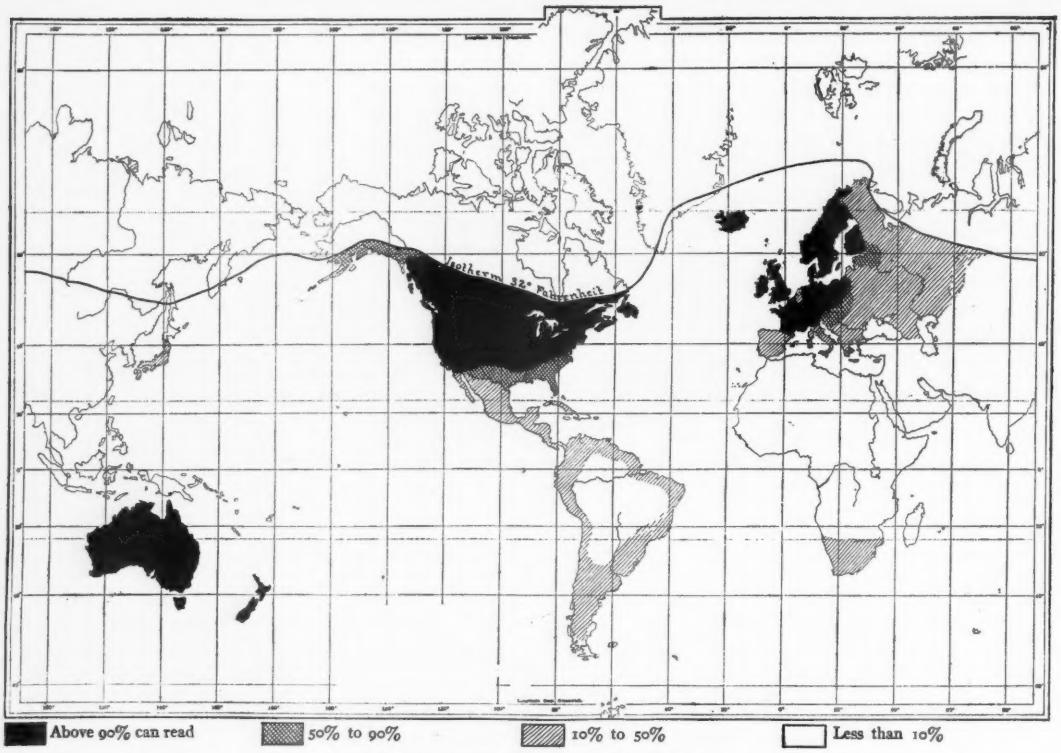
SOME time ago a typewriter firm, in advertising a machine with Arabic characters, made the statement that the Arabic alphabet is used by more people than any other. A professor of Semitic languages was asked: "How big a lie is that?" He answered: "It is true."

In a certain sense, it is true; the total population of all the countries whose inhabitants use the Arabic alphabet (if they use any) is



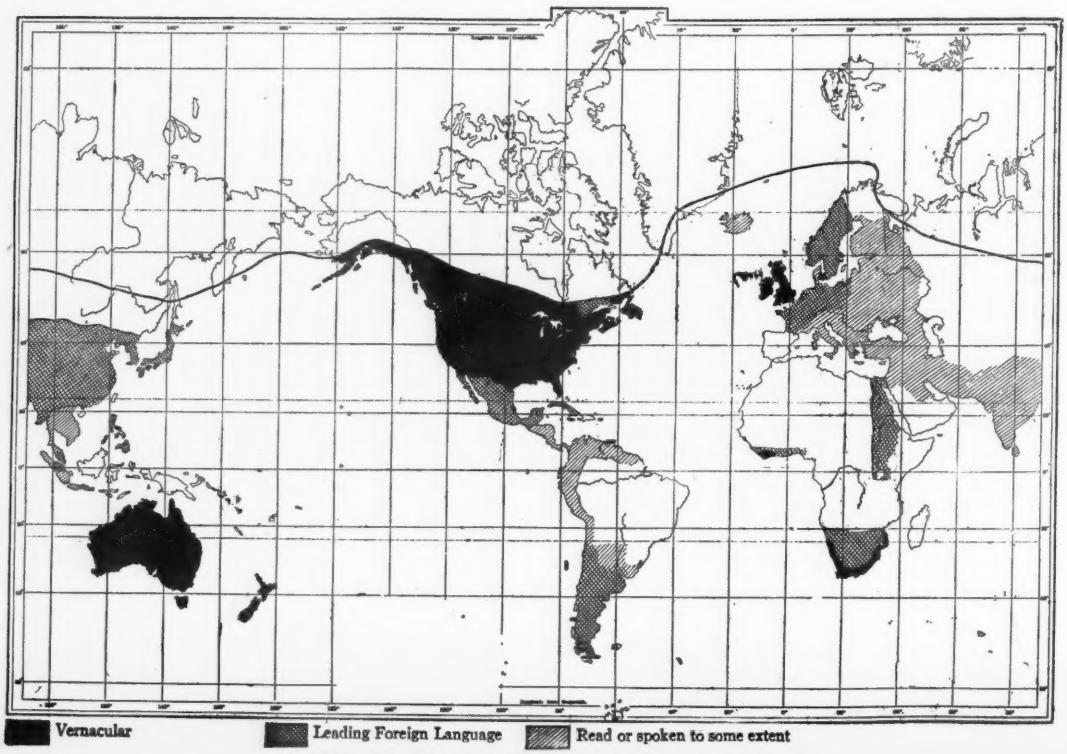
THE ALPHABETS OR SYSTEMS OF WRITING IN THE WORLD TO-DAY

Most of those who can read at all use the Latin alphabet



A MAP OF THE WORLD'S LITERACY

It bears a striking resemblance to the English map below



A MAP OF THE ENGLISH-SPEAKING WORLD

slightly larger than that of those who use the Latin alphabet and its slight variations, or the Chinese characters (which of course are not an alphabet).

The area and population of the territory of the four leading systems of writing is shown in the first map. These four are the only systems used exclusively by more than two per cent. of all the people who can read. The Japanese have a system which more than that can use, but they mostly do use the Chinese characters. The principal other alphabets are the Hebrew, representing at most ten million people; the Greek, eight millions, and the Armenian, four millions.

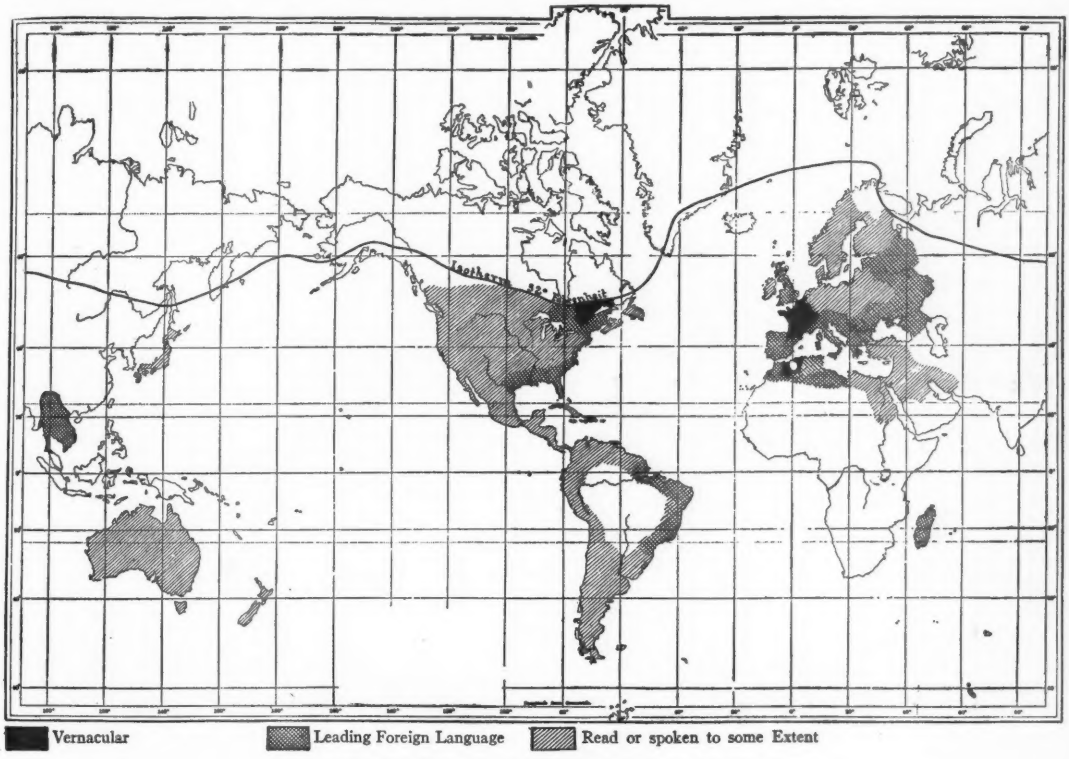
If, however, the question is how many people can actually use any alphabet or system of writing, the Arabic stands lowest of the four, as shown by the diagram.

Supposing that things go on at the present rate until the year 2000: the new countries will then be filled up to about the present density of Europe and the old ones will have increased, relatively less in proportion, but still considerably. It is only for the temperate zones that any reliable facts are known or predictions possible; the future of the lands within the tropics is very problematical, and the lands north of the isotherm of the freezing point can never sustain any large permanent population.

Reference to the maps will show that there are in these zones only three languages dominant in any great amount of new land: English, Spanish, and Russian. The population of the world in the year 2000 will be about 4,400,000,000. The representation of the leading European languages then and now, will be as follows:

LANGUAGE	POPULATION IN 1900	PER CENT.	POPULATION IN 2000	PER CENT.
English	160,000,000	10.0	1,100,000,000	25.0
Russian	100,000,000	6.3	500,000,000	11.0
Spanish	50,000,000	3.1	300,000,000	8.0
German	70,000,000	4.4	160,000,000	3.4
Italian	35,000,000	2.1	100,000,000	2.0
French	40,000,000	2.5	60,000,000	1.3

The question of the relative importance of a language as a literary medium is a question of how many people want to read it. There



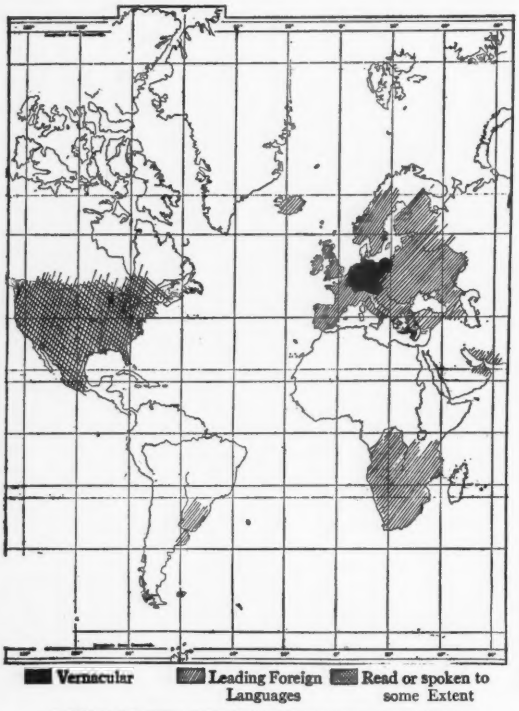
A MAP OF THE FRENCH-SPEAKING PEOPLES

are two classes of these: those to whom it is vernacular, and those who learn it in addition to their own language. The latter class is of the greater importance in proportion to its numbers; a man who has education enough to acquire a foreign language is pretty sure to use it, while many of the former class, who can read, really do read very little. Those who count in this matter are those who can get information from a printed page as easily as by listening to some one talking. A fair index of the relative number of these in a country is the newspaper circulation there.

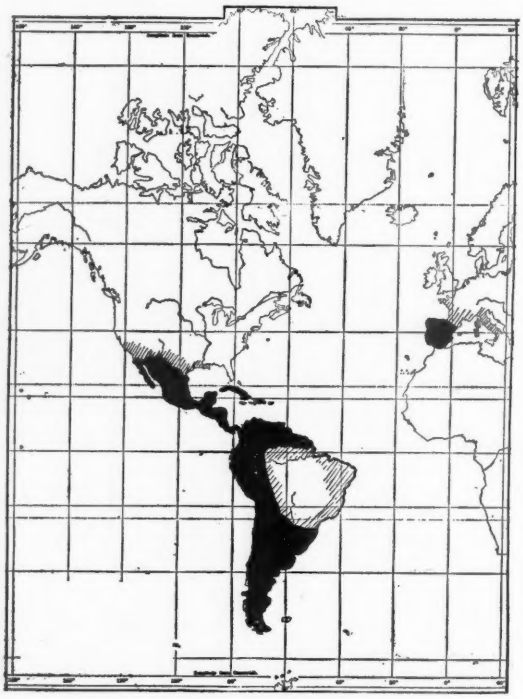
backward in education in a country otherwise advanced. Traditions in the rest of the world have been generally against the education of women, and so no part of it has reached 50 per cent.; but it is surprising how much is still below 10 per cent.

The maps show the territory of the vernacular use and "sphere of influence" of the four leading European languages. The other important language, Russian, has no "sphere of influence" outside of the Empire, and is not vernacular over the whole territory within.

A language must have a recognized liter-



A MAP OF THE GERMAN-SPEAKING PEOPLES



A MAP OF THE SPANISH-SPEAKING PEOPLES

The second map shows how the literacy of the world is distributed, and it represents some rather striking facts. The relative smallness and compactness of the area of practically universal literacy will be noticed. Its southern border follows very closely the isotherm of 60 degrees F. It is practically coëxtensive with the territory of the Germanic and Celtic races. Still more significant is the fact that it is practically the territory where, for a few generations, no priesthood has had control of the schools.

The second grade, 50 to 90 per cent., appears as a mere fringe on the first, being in most cases where there is a racial element which is

ary standard and all the people in its territory must learn to use it as such before its influence goes far abroad. English, French, and German, and they alone, have reached this point. French and German have no new country, and practically the whole of their population is now literate; their relative share in the world's reading can only increase as their population increases. Spanish and Russian, on the other hand, have both new country and room for a much higher percentage of literacy.

It is probable that all the countries in temperate zones will have universal literacy by the

end of the century. In this case, even if no one read English outside its vernacular countries, it would still hold its own as the leading literary language. German and French are bound to fall off relatively as vernaculars, and this implies a falling off of their importance as culture languages; but the importance of English in this respect is bound to grow. The first place among foreign languages has been given to it in the schools of many European and South American countries; Mexico and Japan make it compulsory in all schools of upper grades; and China is to follow Japan in this respect as soon as the work can be organized.

The number of people who can actually read, or will learn if now too young, for the various languages of the world appears to be as follows:

LANGUAGE	NUMBERS IN MILLIONS	PER CENT.
English	136	27.2
German	82	16.4
Chinese*	70	14.0
French	28	9.6
Russian	30	6.0
Arabic	25	5.0
Italian	18	4.6
Spanish	12	2.6
Scandinavian	11	2.2
Dutch and Flemish	9	1.9
Minor European†	34	6.8
Minor Asiatic†	16	3.2
Minor African and Polynesian†	2+	0.5
Total	473+	100

* Not a spoken language, but a system of writing.
† None representing as much as 1 per cent of total.

English, therefore, now leads all other languages in the number of its readers. Three-fourths of the world's mail matter is addressed in English. More than half of the world's newspapers are printed in English, and as they have a larger circulation than those in other languages, probably three-fourths of the world's newspaper reading is done in English.

DECLINE OF FRENCH AND GERMAN

The languages next in importance, French and German, cannot maintain their relative positions because English has more than half of the new land in the temperate zone and they have none. The languages which have the rest of the new territory, Spanish and Russian, are not established as culture languages as English is. No other language, not even French or German, has a vernacular so uniform and well established, and with so few variations from the literary language. English is spoken in the United States by more than fifty million people with so slight variations that no foreigner would ever notice them. No other language whatever can show more than a fraction of this number of persons who speak so nearly alike.

It is then probable that, within the century, English will be the vernacular of a quarter instead of a tenth of the people of the world, and be read by a half instead of a quarter of the people who can read. Indeed if its supremacy is frankly recognized, it can be made the universal reading language in even less time.

THE MONEY-KINGS

IV

SAFEGUARDING THE TRUST COMPANIES

BY

C. M. KEYS

IN THE first article of this series, published in October, but written in August, when not a single cloud seemed to obscure the sky, the writer said:

"The object of these articles is to bring out some of the most striking facts about banks, bankers, and banking. It is full time that the people began to understand some of these mysteries. Whatever a bank may be, it will be at once evident, from the introduction to this article, that it not only holds the people's money, but also that it is the most important of the agencies that make for prosperity or the reverse in the country. The time is coming, and swiftly, when the bank will take the place of the railroad as the centre of the popular interest and agitation. From a fair working knowedge of both the railroad and the bank, I believe that the

latter is not only the more immediately important to the people, but also the more worthy of public attention on account of methods and manners."

That time has come. The task of showing to the people the abuse of banking power has been accomplished by Fate, and any demonstration that I might make would be feeble and inane beside the record of suicide, disgrace, bankruptcy, and terror written by that Moving Finger across the banking history of New York and the United States in the three brief months that have intervened.

The analysis of trust company methods was the second part of the subject as it was outlined. The failure of the Knickerbocker Trust Company and the distressing events that followed it have left me little to say. In passing, however, let me write that the Knickerbocker Trust Company would not have figured, save by indirection, in the story as I should have written it. I am of the opinion that this institution could have been saved, and would have been saved, had it not antagonized some of the Money-Kings. For that reason, Capital made its fight against Panic in the Trust Company of America. It could as well—perhaps much better—have made that stubborn and splendid fight in the Knickerbocker Trust. As it was, this company had to stand alone—and it fell.

To-day, as a result of the October and November catastrophes, the current of public opinion is running strongly against the trust company as an institution. The public judgment, for many years far too lenient, is now far too severe. There are fifty-odd trust companies in New York alone. Of them, I can name fifteen at least whose methods have never been perverted, whose banking is as sound as could be, who are absolutely untouched by the infection of speculation. This faith is not based upon names, nor titles, nor on published statements of surplus and profits—that never failing lure to the uninitiated. It is founded upon some years of personal study, and upon certain knowledge as to methods and administration.

Yet there are many respects in which the laws under which these companies do business are defective. There are also many hidden abuses of the power given by the laws. The trust company growth of the past ten years has been marvelous to the eye. Much of it has been proper, healthful, sound growth; but much of it has been poisonous, fungus growth. Trust companies have, at times, been debauched to the uses of promoters, to the unholy needs of insurance corruption, to the wanton demands of real estate, railroad, and industrial magnates. This very debauch, in some instances, has made the trust companies great of girth and weight. To-day they are stripped for contest; and in this contest strength and cleanliness will win against girth and weight.

In New York and many other states, superficially, the trust companies and the state banks meet the same laws, the same inspection, the same law requiring reserves. In effect, however, convention and practice have widely separated the two institutions. In the discussion of the trust company, much will be found that may be applied to the state bank also; but it will be clearly enough indicated in the text.

Let us use, as a basis, an analysis of the functions of an old, well-established, and successful trust company. This analysis and the information connected therewith were furnished by an officer of the company itself, months before the recent crisis. The functions carried on by this institution are detailed as follows:

(A) Banking Department:

It exercises all the functions of a state bank. It has on deposit $50,000,000 of deposits. Its receipts for a single day have reached $25,000,000.

(B) Foreign Exchange Department:

It buys exchange against shipments of cotton, corn, merchandise, etc.; it sells drafts, issues letters of credit, buys and sells bankers' bills. It turns over, in a year, more than $1,000,000,000 of business.

(C) Bond Department:

In normal times, it carries in stock as much as $10,000,000 railroad, municipal, and other bonds, and does exactly the same business in them that is done by the private banker.

(D) Trust Department:

It acts as executor, trustee, guardian, depository of securities, or agent in any financial transaction. Fees are limited by law.

(E) Registry and Transfer Department:

It registers and transfers stocks and bonds of corporations, and attends to organization or reorganization. Its payment is in fees.

The company thus analyzed does not maintain other departments, but the following must be noted to get a complete idea of all

functions carried on by the trust companies of the country:

(F) Real Estate Department:
Buys and sells real estate exactly as is done by regular real-estate brokers. The St. Louis trust companies are, perhaps, the most striking illustrations of this practice.

(G) Interest or Savings Department:
Pays interest on deposits, and advertises to secure savings deposits. In some states, the word "savings" cannot be used. "Interest" does the work in those states.

(H) Home Department:
Builds homes for owners of real estate, on regular instalments. The work is closely akin to the building and loan company work.

(I) Title Guarantee Department:
Examines and certifies titles to property. In many cases, this is done in the real-estate department, but, in this state and others, this work is done by trust companies which do not themselves deal in real estate.

The laws, we shall say, permit all these activities in one institution. The law is not, perhaps, too wide in many respects, but it is distinctly lacking in detail. That is, the element of personal discretion is allowed to assume by far too great a place in the administration of these huge concerns.

The banking department needs little explanation. In general, the New York companies do little discounting of bills. The great bulk of the banking business is financial banking, not commercial. Herein there is a very striking difference between these banks and the national or state banks. For instance, the trust company analyzed above had $32,000,000 in loans on collateral, and only $1,700,000 of "other loans."

HOW TRUST COMPANIES ARE WRECKED

It is, of course, in the carrying on of this department that the trust companies, in some instances, have far exceeded their rights, legal or moral. It is usually perfectly legal for a trust company to become an underwriter on a grand scale, to undertake the financing of a dozen new enterprises, in Cuba, in Mexico, in the United States, all around the world. But when one finds immense proportions of the deposits tied up in holding huge, ungainly, and wholly unmarketable blocks of railroad and industrial stocks, of foreign promotions, of small syndicate bonds and stocks, one may decide that the trust company has stepped over its moral limit, no matter how it may stand concerning the law of the state. In fact, it has ceased to be a bank, except incidentally, and has become a private banker or promoter, using for such business the funds entrusted to it in a banking capacity.

This error is widespread. We noted it in the failure of the Merchants' Trust of New York, which was loaded with unmarketable traction and power bonds: in the collapse of the Trust Company of the Republic, loaded with Shipbuilding securities; in the failure of the Walsh Banks in Chicago, carrying huge amounts of securities representing half-completed railroads; in the Knickerbocker Trust, with its hundred underwritings. In fact, this error enters into practically every trust company failure of the past ten years.

Now, underwriting is quite a proper function of the trust company; the law would seriously cripple not only the trust company but enterprise itself if it were to draw too strict a line. Yet the law should make clear just how far the discretion of the president, or the manager, of the trust company may be trusted in making underwriting commitments. That is the danger-point. If the president uses the funds in underwriting speculative campaigns in real estate, in furthering a great gamble in such securities as Shipbuilding, for instance, in holding control, through stocks, of speculative industrials such as Tennessee Coal and Iron, in making great personal loans to friends or customers whose ability to repay he knows to be dependent on gambling operations in stocks, or grains, or cotton—then the law should lay upon his shoulder the hands of the police.

Herein the New York law is not only defective but laughable. It is a jest, no more. The examination of the trust companies is nominally good enough. The state can learn the exact condition of the trust company every three months, if it please. The state department is not born blind. Practically every mistake, every investment crime, every bit of gambling that has been perpetrated by the trust companies and that has led on to final ruin has passed, months before, through the hands of the state department. But, of course, nothing has been done. The reason is the same old reason—that the state department is largely a political organization, born of craft and politics, inept, expensive, ludicrous. Here is a task for Mr. Hughes.

There is but one remedy, the same remedy that has kept the great bulk of our trust

companies clean, strong, and free from taint. It is self-examination. The law provides that every six months the board of directors shall itself examine the trust company, analyze its loans and discounts, check up its underwritings, and report upon these things. Upon the honesty, efficiency, and thoroughness of such examination the real strength of the institution must depend.

Therefore, the director must not be a "dummy" director. He must be able to tell a loan when he sees one. He must know the difference between a bundle of Government bonds and a bale of hay. He must give of his time and his labor freely, not hurriedly. He must, in fact, have the soul of a trustee, the old-fashioned virtue of honesty, the courage to speak his mind without hesitation. It takes unlimited courage in a bank director to get up on his feet and order that the president, who may own more than half the stock of the company, or whose friends may own it, shall cease to underwrite the bonds of the X. Y. Z. Railroad Company, the bank's biggest customer. It takes the grit of a hero to refuse to loan further to a railroad magnate whose operations cover the continent. It may take the combined nerve of the board of directors to call the loans of the director of a big corporation. Yet these things must be done.

Of course, the banking department is the life, the heart, of the trust company business. Yet much may be said of the other departments. Foreign exchange is a technical subject. I shall not discuss it, nor attempt to explain it. I shall say merely that it is safe, legitimate, and necessary. Few of our trust companies have mastered it as yet, or reached the point of certainty and knowledge arrived at by the old foreign firms of Wall Street which once monopolized it. It ties up funds sometimes for a considerable time, but, on the whole, is not deserving of any severe criticism as carried on by the best of the trust companies.

TRUST COMPANIES AS TRUSTEES

The real task of the old-fashioned trust company is the work of the trust department. It is an enormous work. The Girard Trust Company, of Philadelphia, has more than $75,000,000 of trust funds, not including stocks or bonds left with it for safe-keeping, nor yet including $250,000,000 of securities deposited with it as trustee of various collateral mortgages. In New York, the best of the trust companies do an enormous business along these lines. The charges are light, the work is efficient. Of course, money deposited in this way with the trust company is not to be used in any speculative ventures at the will of the management. The trust company is usually merely an agent, acting under the trustee laws of the state, or under the direction of the depositor. In this function, the New York companies have usually acquitted themselves with honor.

The registry and transfer of securities is normally legitimate. Yet, I shall illustrate the one iniquity of it, as practised in New York.

As a reporter, I once investigated a copper company which advertised profusely in the public press. One of its announcements was sent to me from the West, with a note to the effect that the "mine" did not exist, but was merely a claim, and that no work was going on or had gone on. Across the middle of the advertisement, in letters barely smaller than the name of the mining company, appeared the name of a well-known New York trust company, with the word "registrar" in small letters beneath it.

I went to the vice-president of the trust company, whom I knew, and showed it to him.

"My friend wants to know," said I, "whether this trust company owns the mining company or the mining company owns the trust company."

The remarks of the trust company official will not bear repetition. In the end, it was decided that I should go and interview the president of the mining company.

He was a pleasant fellow. He showed me "samples" from various depths in the mine, spread before me numerous "assays" from these samples, and generally induced me to come on in. Finally we got around to that trust company.

"Oh yes—they investigated, and found us all right. We are authorized to use their name in our advertisements. They are our registrar—makes it better you know, because you know that you are not getting any forged certificates. I understand that some of the bank fellows have bought blocks of the stock themselves."

When I asked for permission to use the telephone, he granted it gladly. He was very polite. When I got the wire and asked for my friend, the vice-president, the mining man was not suspicious. But when I said: "Mr. Blank, the president of the—— Mining

Company tells me that your trust company has investigated his mine and finds it good: would you like to talk to him?" and then handed the receiver over across the table—the air grew oppressive. I departed, but not before I heard behind me the surly remark:

"All right, throw us out if you like! But you took the business with your eyes open, didn't you?"

And that is the trouble. Within the past few years too many wildcat companies have secured the use of the names of good trust companies for advertising purposes by paying the small fees for transfer and registry of their securities. It is time that the trust companies cleared this mud from their boots. The small profits to be gained do not by any means compensate for the loss of prestige that must inevitably follow if carelessness continue.

In some few cases this small error has assumed a more flagrant nature. Some of the trust companies have a so-called "trust officer," who becomes a director of the companies that employ the trust company as registrar or transfer agent. His name and office are loaned to the advertising of the companies. In three cases that have come under my observation in the past year, flagrant crimes against the investment public have been assisted by such method. That, I take it, comes close to connivance at swindling. No self-respecting trust company should allow it.

The work of the real-estate department and the certification of bonds and mortgages, quite generally carried on throughout the United States by the trust companies, is largely legitimate. I do not, of course, believe in giving to either banks or trust companies the privilege of becoming real-estate brokers. It is a business into which must enter too much personal discretion, and far too much chance for speculation under the guise of investment. If one care to study the records of failed trust companies in Philadelphia and in New York alone, it will be strikingly evident that in many cases the trail of real-estate speculation lies across the record of the catastrophes. Title insurance and certification, for fees, is a directly remunerative and not at all speculative function, quite within the proper province of the trust companies.

The old-fashioned trust companies in New York do not attempt to invade the province of the savings bank. Yet there are many of our trust companies that do make a serious attempt to attract the deposits of people of small means. Some few have resorted to methods that are decidedly reprehensible. Some, even of the most conservative trust companies in New York, have made a bid for small accounts by paying interest on balances of $100 or more. In one, at least, an account may be opened with one dollar, and the smallest saver of money is bid for by means of a little hand-bank, in which to save pennies, dimes, or quarter-dollars. The small sums so saved may be placed in the trust company, which uses them at its discretion, under the general banking act.

It is a good thing to encourage savings. It is not a good thing for the trust company to thus take the place of the savings bank, for the gap that separates the state banks and the trust companies from the savings bank is a wide one. Commercial disaster, official misdoing, tight money, have wrecked the trust companies at times. From such causes the savings bank is practically immune—first, because it is controlled by its depositors, and cannot fall under the influence of speculative financiers; second, because it is regulated as to its investments by the extremely rigid laws of the state.

Trust companies are stock companies. They are not bound by the savings-bank law in the investment of their savings deposits. Therefore—surely it is indisputable—they should not be able to compete for the savings deposits of the people. This is recognized fully by the law itself, which allows the savings banks to make deposits in trust companies, but at the same time provides that such deposits, in case the trust company shall fail, are "preferred"—that is, must be paid before the general depositors get anything.

Our state banks are worse offenders than our trust companies in the open bidding for savings-bank deposits. I quote from a recent advertisement by one of the offenders:

DO YOU UNDERSTAND BANKING BY MAIL?

Four per cent paid in the interest Department. You can open an account in this department with $1.

I do not believe that the class of depositors to which that advertisement would appeal, and does appeal, is the class of depositors who should patronize a commercial bank. Nor do I believe that the laws of New York State

contemplate such advertising on the part of a state bank.

In proof of this position, it is as well, perhaps, to cite the fact that the Hamilton Bank, which closed its doors during the panic, was a state bank which had an "interest department." When that bank closed, the small depositors of the department discovered that they were in no sense "preferred" over the commercial depositors. They take their chance in the liquidation of the bank, just the same as though they had been commercial depositors, with money in the bank so that the bank would look out for them in the making of commercial loans.

The attention of Governor Hughes and his new banking committee is earnestly called to this point. It might not be considered impertinent to suggest that the state of Connecticut put upon its statute books at its last session a small law covering this point, one worthy of being copied in this state. This law provides that trust companies which have savings departments must invest such deposits only in securities that are authorized for savings-bank investments. It further provides that such investments shall be for the sole and exclusive protection of these savings deposits, and not for the general deposits. This law might well be applied both to trust companies and to state banks in all states. It would broaden the usefulness of the trust company and the bank, and at the same time remove the danger of such broadening.

Outside of New York and Massachusetts, this apparent criticism of the establishment of "savings departments" in commercial banks and trust companies loses much of its force. Missouri, for instance, has a savings-bank law, but no savings bank, unless, indeed, one has recently been established in St. Louis. The trust companies practically do the savings-bank business of the state. They have done it very well, so far. Similarly, Ohio and Illinois, two of the richest states of the Middle West, boast a system of savings and trust companies that has been a successful substitute for the widespread savings banks of the Eastern States. Yet, in Ohio at least, the savings depositor is not "preferred" as to assets in case of failure. This whole question of savings banks and the substitutes therefor will be taken up in detail in a subsequent article.

In passing, however, it is as well to say that from the Atlantic to the Pacific the trust company and state banking laws need a thorough overhauling. Merely to illustrate, the following quotations will suffice:

Mr. Charles McKee, of the Mercantile Trust Company, Little Rock, Ark., said to the Bankers' Association:

"We have one law in Arkansas that is called a trust company law, which is wide open at both ends, authorizing trust companies to do any and all kinds of business. It is authorized to act as administrator and guardian and to buy and sell real estate and to conduct a savings-bank business."

Mr. W. G. Brown, of the Rhode Island Hospital Trust Company, of Providence, R. I., makes the following significant statement:

"The laws in our state regulating trust companies are somewhat open; or, I might say, perhaps, that they do not exist at all to any extent, and there are not much of any laws. . . . With only a few exceptions the control of the national banks in Providence is lodged with the trust companies."

These statements, be it noted, were made by trust company officials, talking to the trust company section of the American Bankers' Association, in 1906. They will serve to indicate to the reader the crying need of banking legislation in those two states. And those two states are no worse than twenty other states. In fact, there are not half a dozen states in the Union to-day whose laws governing state banks and trust companies adequately safeguard the depositors. In Ohio, for instance, where the trust companies have built up a tremendous business, these institutions incorporate under three separate laws, the savings and loan act, the safe deposit and trust company law, and the old state bank law. Inspection by the state has been, in the past, practically nil. Because the strongest, cleanest, and most conservative men in the state have turned their hands to banking, the lack of adequate legislative assistance has led the Ohio companies on from strength to strength, so that to-day it is difficult to get popular backing for any attempt to change the laws. It is a peculiar position, unique in this country.

Enough has been written here, perhaps, to indicate along what lines the people must work for the salvation of the country. That there is need of wholesale reform, no man may well deny. If one looks for proof let him go study the receivership of the Real Estate Trust Company of Philadelphia, the Knickerbocker Trust Company of New York, the Oregon Trust and Savings, of Portland, Ore.

WHAT GERMANY CAN TEACH US

CITIES THAT HAVE BANISHED UNSIGHTLINESS, AND STREET-CARS IN WHICH THE PASSENGER IS A GUEST—THE CULTIVATION OF A TASTE FOR MUSIC AND OUTDOOR LIFE

BY

ROBERT HAVEN SCHAUFFLER

WHY are American cities worse governed than German cities? Why are they in many ways so much less modern and comfortable and beautiful? It is not because we lack the progressive spirit or the wealth, the love of comfort or the sense of beauty. The cause may usually be traced to a disrespect for law, to a laxity of discipline, to an insufficient public control of public utilities and beauties. The Germans have too many laws, and they respect them. We, too few, and do not respect them. There is something of the slave about them; something of the anarchist about us.

The first thing that strikes one in a German city is its varied, unmonotonous uniformity. All buildings are planned and built under a skilled, municipal supervision that has an eternal eye for the utility, the safety, and the beauty of the whole rather than of any of its parts—a supervision that protects the architecture of other centuries and tries to keep the new from clashing with the old. Munich is an admirable example of how fully the architecture of a city may express the spirit of its time and yet be composed, under efficient supervision, into an artistic whole, the separate structures forming but the single stones in the master-builder's huge mosaic. Here the latest thing in Art Nouveau is not often allowed within fighting distance of the Renaissance. The Marienplatz, for instance, is a fine example of how later architecture may be made to harmonize with earlier.

Teutonic thoroughfares are models of cleanliness, and Cologne is the only German city of my acquaintance whose slum streets are not as well-kept as the best pavements of our cleanest cities. This condition is the result of a day and night cleaning force with an hereditary hostility to filth. (It seems to many of us that America shows more humor than good faith in entrusting its streets to the sons of one of the dirtiest nations on earth.) The German uses much water on his pavements, and is beginning to install effective motor sprinklers, which, with the new motor fire-engines, have passed beyond the stage of experimentation.

The German is earnestly trying to eliminate the ugly from his land. The electric accessories of his streets no longer offend the eye and, in cities like Hamburg, Munich, and Berlin, the avenues of candelabra-like trolley posts crowned with arc lights are charming additions to municipal beauty. Instead of those American boxes for waste-paper, which resemble garbage cans gone wrong, the German has a pleasant, vase-like affair with good lines, made of iron strips, and fastened to a trolley or lamp-post or telegraph-pole.

The average news-stand is an eye-sore in America, but over there they realize what an important factor it is in the street-scape. And many of these booths are as attractive in their own lyric way as the buildings of Alfred Messel, in their epic way.

Street advertising is almost entirely confined to pillars at street corners, and offensive "ads" are classed with offensive smells. There are no billboards to mask the litter of vacant lots, to harbor criminals and refuse, to communicate fire, to cheapen and disfigure a beautiful thoroughfare with the atmosphere of Pale Pills for Pink Livers, or to replace the loveliness of meadow and forest and winding stream by a stage-setting lurid with the glories of Father O'Sweeney's Dime Consumption Cure. Even lights are regulated. Among all the German cities, Hamburg is the only one whose evening beauty I have seen actually marred by the luminous sign.

In Berlin, the stations of the elevated railway have actually been designed with an eye to

the beauty and character of the street. The less sightly parts are hidden by rows of trees; the posts and girders are gracefully designed. It makes one think with a heartache of Sixth Avenue, New York.

The German system of public convenience stations compromises between the publicity of the French and Italian and the rarity of the American stations. Most of them are accessible, private, hygienic, inexpensive, and neat. Our shortcomings in this respect have greatly stimulated the saloon business, but reform is already being agitated in some of our larger cities. In this matter we have much to learn from Germany.

Garbage and ashes are removed from the houses in closed cans and, by an ingenious mechanism, dumped into specially constructed wagons without exposing their contents to the air, thus doing entirely away with dust and odors. Although this method, if we adopted it, would bear heavily on the wretched army of scarecrows who prowl hungrily through our streets at dawn, burrowing into the garbage for a morsel, it might stimulate us to grapple more efficiently with this distressing question. The mendicancy problem is one which the German has solved. I have never seen a beggar in any German city except Cologne — a western city, touched by French influence — and every street in the Prussian capital is as safe as Unter den Linden.

The German is not willing that his ear should suffer any more than his eye or his nostrils. He is absolutely intolerant of unnecessary noise, for he wants to keep his nervous system normal. The discordant cry of the newsboy, the sempiternal steam whistle of the peanut-vendor, the over-exuberant solo on the street-car gong, the whine of the beggar, the bell and bugle of the scissors-grinder—all these are conspicuously absent. In point of fact, the law even forbids you to warble Schubert or whistle Brahms on the public ways. This is going radical lengths in such a musical land, but the tyranny has its justifications.

What most humiliates my American soul in the Fatherland is the street-car, for there is no German village large enough to own an electric line whose cars are not more comfortable and more smoothly and efficiently run than the cars of any American city that I know. There the tram does not stop at every cross-street but only at the designated stopping places, which are 219 yards apart. These places are marked by posts, often bearing enameled shields giving the number and route of every car that passes that point. This system of stops annoys an American at first, but he soon realizes that it enables him to travel with far more speed and comfort and with less nervous waste than in the trolleys of New York, where he hangs from a strap in a struggling crowd, is jolted twice at every other cross-street, and is exhorted roughly by a grimy conductor who is often in rags.

In German cars no one is allowed to stand in the aisles and only a definite number are accommodated on the platforms. The cars are gradually stopped and started without jerks and the apparatus enables the motorman to run very slowly and smoothly without the alternation of stop and jolt and lurch which marks the wake of the obstinate American ice-wagon

I have often inquired the cause of this trying phenomenon and the men always tell me that the apparatus will not run the car slowly. One failing of our motormen, though, is not due to the machinery. Any German motorman who should start his car abruptly would be at once denounced by a carful of indignant passengers, and would lose his place within twenty-four hours. I once sent such a denunciation to the Interborough Company of New York and received a most courteous reply from some high official, who was as grieved and surprised as any official could be, saying that it was bad for the machinery, was strictly against orders, that the motorman would be called to account, and that he believed the painful circumstance would never occur again. I have since learned that this official has a reputation for humor.

In Germany the nervous ringing up of fares is replaced by a system of receipts, which are occasionally checked by an inspector. The conductor and motorman are clean, neatly uniformed, and, as a rule, courteous. At least, they make a point of assisting women with parcels and children, not merely punching them in the back. In a number of cities like Brunswick, Dresden, and Hildesheim, each car is provided with a clock, and the daily newspaper hangs on a hook for the use of the honored "traveling-guests." Passes which save money and trouble are available on all lines, and the public safety is so highly regarded that the law against boarding a moving car is enforced in several cities. I

remember jumping upon a passing tram in Cologne. The conductor remonstrated with melancholy dignity. I smiled and considered the incident closed, but at the next stopping-place he ordered me off the car, according to law. In consequence of such rigor there are scarcely any trolley accidents in Cologne.

Tickets for subway, elevated, and suburban trains —as well as *Bahnsteig* tickets admitting one to train platforms—are sold by slot-machines — a device that would save much crowding and delay in our country. Change is even made by machinery, and I should not wonder if the slot-machine would eventually displace the ticket-seller and reduce the expense of subway and elevated lines both to operator and to passenger.

The punctuality and safety of German transportation is due to a progressive spirit in the matter of safety devices and to governmental investigation of accidents, as well as to the quality of the employees — who have all been educated in the army and brought to a high level of discipline. No man without a good army record can win a position on tram or railroad; and, once he is dishonorably discharged his outlook is dark indeed. Such a school for employees is impossible in our country, but better conditions would immediately follow the growth of a strong public sentiment in favor of clean, neat, courteous, careful, thoughtful, and skilful motormen and conductors. In short, we ought to revolt against being carried by a set of amateurs.

Opinions differ widely about the merits of the European compartment car. For my part, I prefer its opportunities for privacy, its better ventilation, and its easy access to the platform. But there is no doubt that a German sleeping compartment, even of the second-class, is more comfortable than the clumsy, curtained, head-cracking arrangements of our Pullman berths — so public and so far from the lavatory.

Germany's contribution to educational science is too well known for the mention of any but a few of the latest refinements. A city like Mayence is typical of the recent advances in school hygiene. There are shower-baths in the basement of each building for boys and for girls. Each child is expected to bathe at least once a week. He is furnished with a cake of soap, a towel, and trunks; and there is room for

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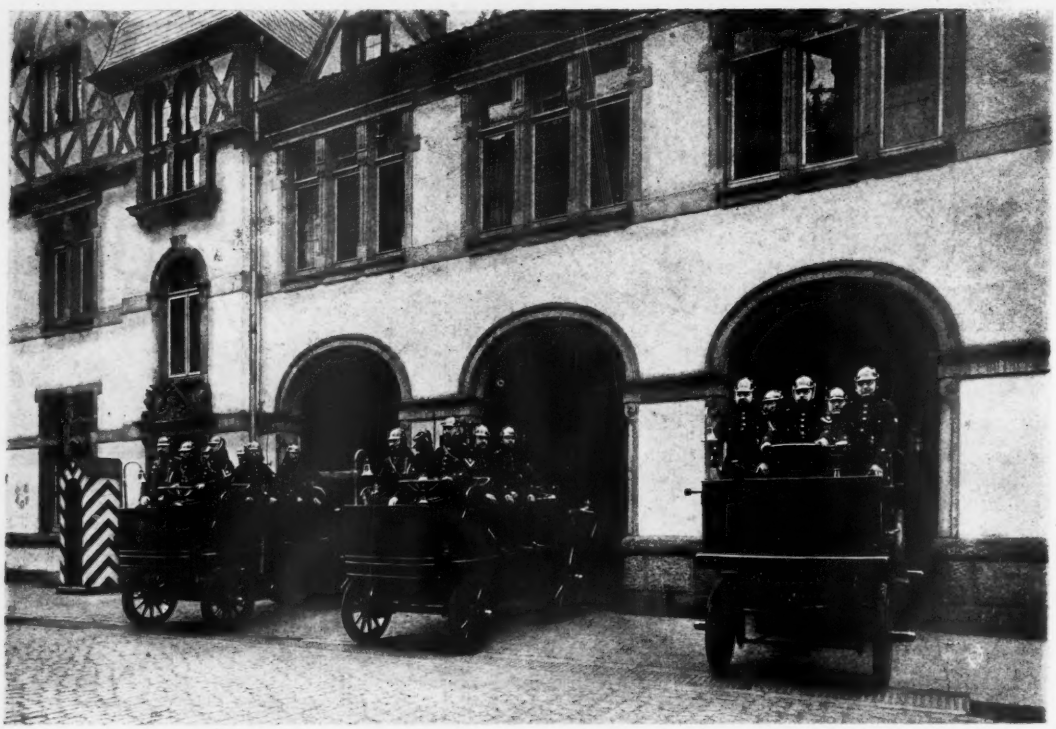
THE ELEVATED RAILWAY ON BÜLOW STREET, BERLIN

Artistic trestles and rows of trees along the line make a sharp contrast to elevated lines in New York

fifty to bathe at once. Besides this, there are free swimming lessons in the Rhine for all that wish them. The floors of the schoolrooms are covered with lattice-work, which allows little shoes to dry more quickly on rainy days. The pupils' books and implements are furnished free on the demand of the parent, as well as a light daily luncheon, and it is said that most of the pupils do not know whether their parents pay for them or not. The belief that prevention is better than cure is thoroughly entrenched in the philosophy of the German, and



Courtesy of *Motor*

THE HANOVER FIRE DEPARTMENT RESPONDING TO AN ALARM

in his practice as well. There is a considerable corps of school physicians in Mayence, and, every two weeks they measure, weigh, and examine each pupil. The sick and degenerate are sent to a large and completely equipped orthopædic institution and there treated free. Children who stammer or pronounce imperfectly receive individual training.

It is good to know that we are preparing to imitate one of the best features of German university life and to encourage the migration of students — especially of graduates — from one university to another. It is to be hoped that the tragic fate of our foremost composer, Professor Edward MacDowell, may stir public opinion to relieve the creative men in our faculties of their undue burdens of class-room and committee work, and give them the large, fertile freedom of the German "docent."

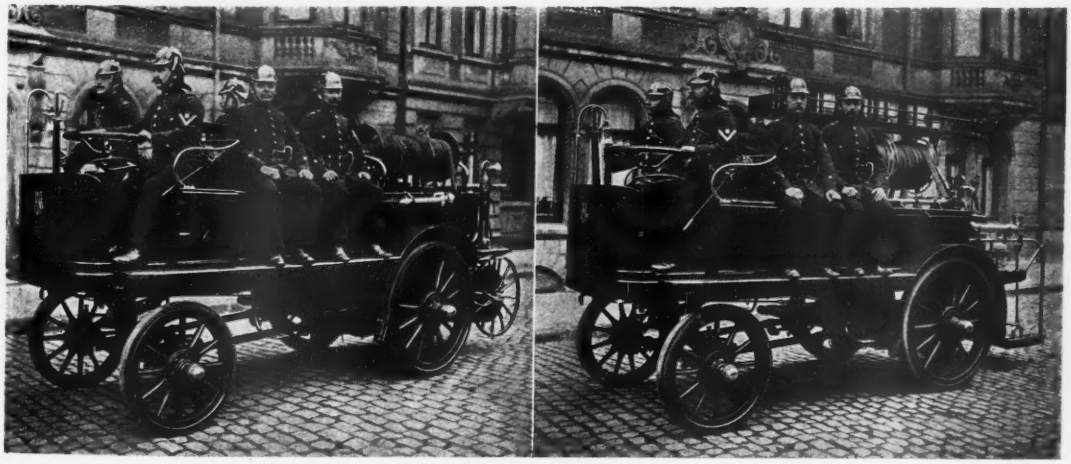
The Fatherland has taught us even more about music than about teaching, and still sends us the bulk of our orchestral musicians and virtuosi. But we have yet to learn from its devout audiences how to listen to music: how to create that *rapport* between performer and hearer without which the greatest music is impossible ; and how to keep the concert atmosphere untainted by the profanity of whispering and foot-tapping and flippancy. In Berlin you may hear the Philharmonic Orchestra perform a symphony programme for ten cents, while eating your supper among a crowd quieter than a Kneisel Quartet audience in New York. We Americans have two orchestras, two operas, and a string quartet which are among the finest, if they are not the finest, in the world. But there are few cities in Germany too small to have their orchestra, their opera, their quartets and singing societies. Good music is a necessity to them, a luxury to us.

Courtesy of *Motor*

AN AUTOMOBILE FIRE DEPARTMENT ON THE WAY TO A FIRE

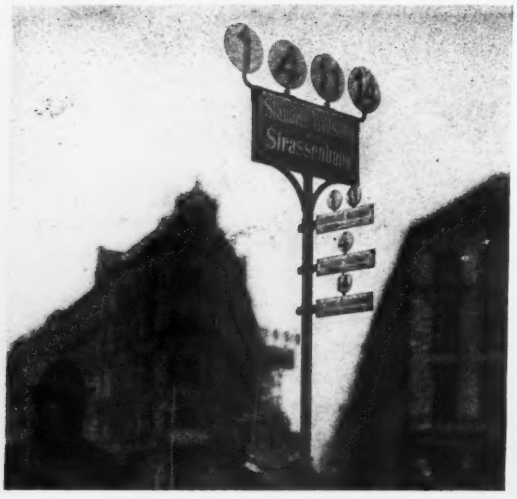
Germany's most important contribution to the art of building in recent years is in its commercial architecture. Alfred Messel started the movement by building Wertheim's beautiful department-store in the Leipziger Strasse, in Berlin — an achievement followed there by such notable structures as the Store of the West, the Rheingold restaurant and the offices of the *Allgemeine Zeitung* in Munich. These buildings clearly show their structure and their character, dispensing with opaque walls in the Gothic spirit. They are made of such rich materials as shell limestone, and what they have of ornament is of superb quality. Everything about Wertheim's is in admirable taste; shopping is made less sordid by a lovely statue here, and a garden there, where one may rest among trees and flowers, attending to nothing but the plash of an exquisitely sculptured fountain. The artistic influence of such a store set in one of our "strictly business" streets would be a fine educational influence for that passionate shopper, the American woman.

The arts and crafts movement has taken deep root in German soil, and the Germans are determined to make everything about them as beautiful as they can. The numerous exhibitions of painting, sculpture, architecture, and handicrafts are thronged by all classes of people and are of inestimable value in cultivating the public taste. During last summer I saw such exhibitions in Munich, Berlin, Mannheim, and Düsseldorf. The



Courtesy of *Motor*

AUTOMOBILE HOSE-CARTS OF THE HANOVER DEPARTMENT



WHERE THE STREET-CAR STOPS

The numerals on top show what cars pass this point; the small signboards tell where each car goes

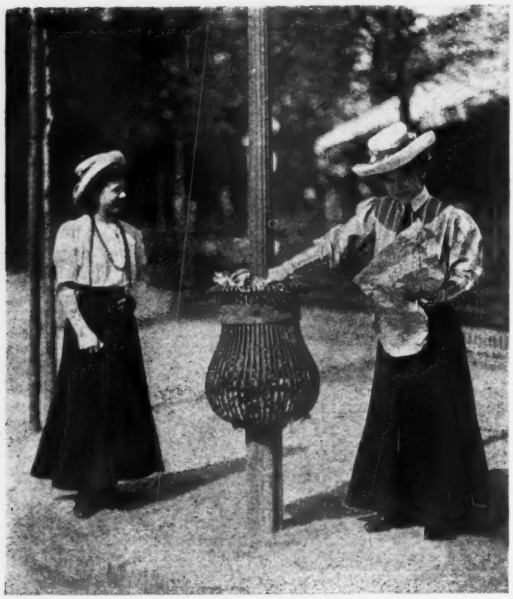
first two of these outranked the average Parisian *salon*, while the others surpassed any in America except the international exhibition in Pittsburg.

The museum habit is widespread, and a German town no larger than Lakewood, N. J., would feel disgraced not to possess a gallery of painting, sculpture, antiquities, and casts as representative as that now in any American city ten times its size. The idiotic tariff on ancient art which has prevented the growth of our museums is to the Germans an indication that we are not quite "all there." When we mention it they grow embarrassed and change the subject. But among themselves they look knowing, tap their foreheads, and flutter their fingers.

In theoretical medicine the German leads the world, though the American is more brilliant in the practical application of German discoveries. The Virchow Hospital in Berlin incomparably surpasses the Mount Sinai in New York, our finest American hospital. It is built on the new pavilion system and consists of thirty buildings set in charming grounds and connected with a large private park. One building is reserved for the department of pathology, whose chief is far greater than the pathologist of any American hospital, where this important department is usually restricted to one small room. The same international ratio holds in regard to hospital bathing facilities.

Germany's state subsidizing of laboratories in its largest chemical industries is another indication of regard for the value of creative work.

AN ATTRACTIVE NEWS-STAND



EVEN THE WASTE-PAPER RECEPTACLES ARE MADE IN ARTISTIC DESIGNS

There is a comprehensive system of workingmen's insurance and pensions. Practically all German workmen are insured against accident and sickness, and are pensioned by their employers when no longer able to work.

Baths and even recreations are furnished them. At the Krupp Cannon Works, for example, not only are tennis courts provided for employees, but also (for the different grades of Krupp society) a gymnasium, a golf course, a polo field, canoes, fencing rooms, riding horses, and a circulating library of 52,000 volumes.

Huret says that the administration of the German postal, telegraph, and telephone systems is the first in the world for order, regularity, and the multitude of services which it renders to the public. For $5 a year

A STAMP-VENDING SLOT-MACHINE EQUIPPED WITH THREE KINDS OF POSTAGE-STAMPS

anyone may establish his own letter-box and fix the hours of collection. He may register a letter in his own office. He may send and receive packages up to ten pounds in weight c. o. d. at a trifling expense. There are many little conveniences in German post-offices, such as a letter-scale which anyone may use, slot-machines for the sale of stamps and for making change, notices over letter-boxes: "Do not forget stamp and address," and polished brass trays at the door with numbered grooves where you may leave your half-finished cigar before entering the warm, well-ventilated, smokeless interior. Berlin's *Rohr-post* should commend itself to the hustling spirit of America. One may write a six-cent post-card full and have it delivered within the hour by pneumatic tube and mounted messenger anywhere within the city limits.

AN AUTOMOBILE STREET-SPRINKLER ON UNTER DEN LINDEN, BERLIN

Postal money orders are surprisingly cheap and the cash is brought to you by a messenger; or you may order it placed to the account of a creditor. The postal banks are very popular and not only do an immense banking business, but also carry on an active accident, sickness, and age-insurance business among the lower classes. The people have implicit confidence in these banks and they do much to encourage thrift. If a workman, in a virtuous moment, decides to put by a little money regularly, he simply notifies the bank and every week, on a certain day and hour, the collector comes to give him a receipt for his dime.

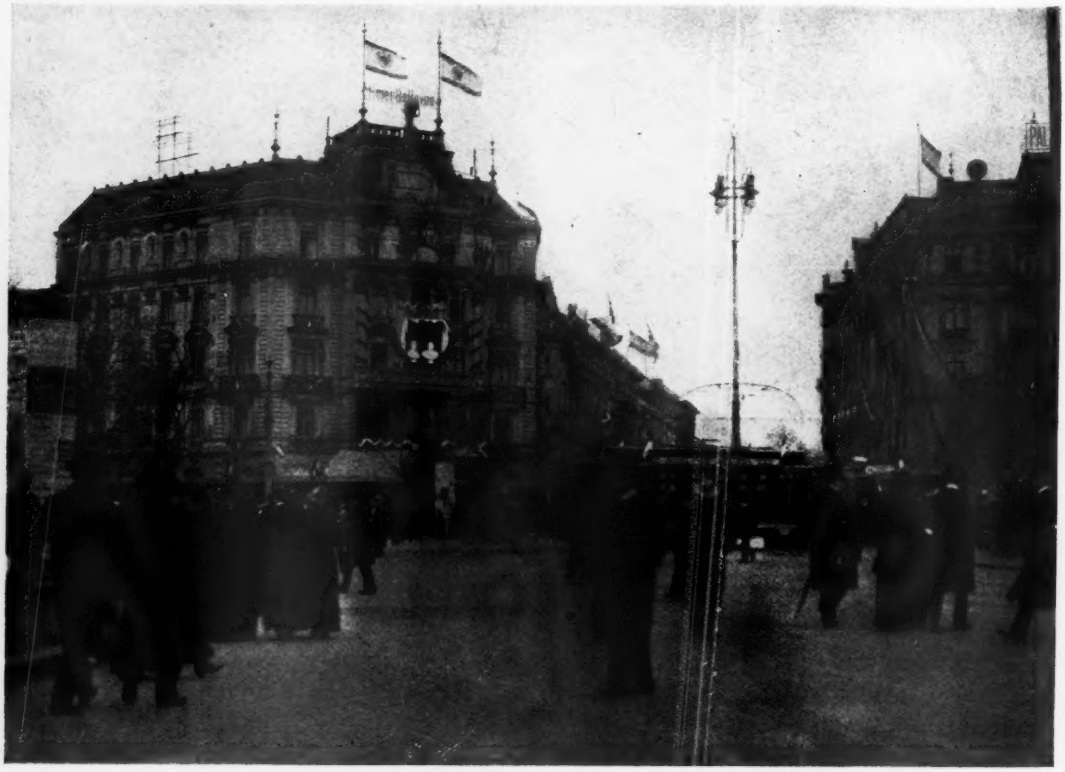
What is more, these banks are actually made to pay dividends and, on the revolutionary principle that what the money of the poor earns should return to the poor, these profits are divided between unemployed girls, needy women, fresh-air funds, public baths, halls

A GERMAN ASH-CART THAT SPREADS NO DUST

where workingmen may meet on winter evenings, and so on.

The state operates the telephone service and it is unexcelled for speed and accuracy. In certain cities one has the right to complain if he is kept waiting more than thirty seconds for a connection. For twenty-five cents a month you may establish a direct, permanent connection with the doctor, the fire department, or the police and call them immediately without the services of "central." They are now trying a device by which messages are received and automatically written at the other end of the line at those trying moments when "party doesn't answer." The telegraph is also a Government monopoly and the usual message sent from any post-office or railroad station costs twelve cents to any part of Germany or Austria. It is possible to prepay a reply.

Though the Germans are not athletes in the Anglo-Saxon sense, they know how to live a sane, healthy, delightful life out of doors. As a rule, the whole family goes into the country for the week-end—an adventure which would be both expensive and uncomfortable for most dwellers in American cities. But the German has seen to that. Suburban travel by trolley and train is incredibly cheap, and his out-of-doors is completely furnished with restaurants and milk-houses and homely, comfortable inns. One may shoulder a *rucksack* and tramp through the barrenest part of the Fatherland with a certainty of better bodily entertainment than in a walk up the Hudson. Germans are famous walkers and the *rucksack* habit has so taken hold of them that a large part of the population flocks in vacation time to the Hartz, to the Thuringian, or the Black Forest, to the Giant Mountains, the Bavarian Highlands, or Saxon Switzerland for a few precious days of "mountain-scratching," as they love to call it. Their leather-strapped bags of canvas are not eyed askance by even the most bureaucratic of hotel porters. But I shudder when I imagine the fate of a *rucksack* in the St. Regis.



A TYPICAL STREET CORNER IN A GERMAN CITY

Clean streets, trolley posts crowned with candelabra of arc lights, and trolley wires supported by an arch

RUDYARD KIPLING

THE FIRST WRITER OF ENGLISH TO RECEIVE THE NOBEL PRIZE FOR THE MOST DISTINGUISHED LITERARY WORK OF AN IDEALISTIC TENDENCY

BY

W. B. PARKER

THE award to Mr. Kipling of the Nobel prize brings him again to the centre of the stage. The prize is awarded for the best literary work as regards idealism and is now given for the first time to a writer of English. It has been bestowed upon M. Sully-Prudhomme, Th. Mommsen, Björnstjorne Björnson, Henry Sienkiewicz, and jointly upon Frederic Mistral and José Echegaray. Its bestowal upon Mr. Kipling may fairly be taken to indicate the opinion of the eminent judges that he is not only an idealist, but the foremost writer of English.

For myself I have never had any doubt on either point since I read "Plain Tales from the Hills" in a worn, paper-covered edition at school nearly twenty years ago. His idealism needs no other evidence than the enthusiastic following he has from boys—indeed from children of all ages. Few would question the implication behind the decision of the Nobel prize committee that Mr. Kipling holds the first place among living English writers. His immense personal popularity so far exceeds that of any of his contemporaries as to admit no comparison; his influence upon current thought and behavior is not to be calculated. In fact, he has become a popular ideal in literature, as Sargent is in painting, and President Roosevelt in politics. Not to have heard of Mulvaney and Mowgli, not to know the refrain of "The Recessional," is unthinkable.

Yet Mr. Kipling is the most baffling of writers. His methods from the first have been so audacious as to leave nearly all the critics bewildered, and it is a mark of Mr. Charles Eliot Norton's unequaled acumen in criticism that he should have recognized Mr. Kipling's genius so early. I recall the start of surprise in a large audience, more than ten years ago, when Mr. Norton proclaimed the author of "M'Andrew's Hymn" a worthy successor to the throne of the great English poets left vacant since the death of Tennyson.

The baffling element about Kipling's work is its apparent crudity, which has lately been so admirably put by the French critic, the Vicomte de Voguë. He has been speaking of the great masters of literary tradition:

"But now," he continues, "a savage bursts in upon this circle of conventional worthies; no mere academic figure garbed as a savage to attract attention, no mere 'Touranien' of the École Normal or 'Apache' of the Batignolles, but a natural savage of honest hue. He gets his literary effects only by new and direct impressions, from the accidents of an adventurous life in for-

MR. KIPLING'S SUMMER HOME
"The Woolsack," "Groote Schuur," in South Africa

eign lands. He invents, like Homer and the Bible, his modes of utterance. His similies are never stereotyped; they are drawn from things he has with his own eyes beheld. His descriptions of scenery are not descriptions, they are instantaneous impressions received in a glare of light upon an infinitely sensitive photographic plate. He has the feeling of a primitive. Let us confess it — this savage pleases us because he rouses and looses the old barbarian that is in every one of us.

"To be sure we shall afterward come back to the noble educators who have polished our intellects and to the wonted masters of our thoughts and our dreams. I imagine that Kipling would charm me less if I were living under Napoleon amid excesses of brutality. It was healthful in those days to read 'The Genius of Christianity': otherwise a man might have become altogether coarsened. In our day it is safe to declare: 'Read the barbaric Kipling, just as you take iron when you're anæmic, whenever your brain is getting overfed.' To reëstablish balance and mental health a man must run counter to the current of his age: it is very bad policy for a writer, but it is sound hygiene."

The disposition to treat Kipling's work as if it were crude and easy is one that ought by this time to have been cured. There is, as a matter of fact, no more careful or conscientious artist alive. When the newspaper reporters tried to interview him on his return to New York in 1899 all they could get out of him was: "Every effort of art is an effort to be sincere. There is no surer guide, I am sure, than the determination to tell the truth that one feels." But long before that, in "The Light That Failed," he had preached it by the mouth of Dick Heldar, who is not difficult to recognize as Rudyard Kipling. "All we can do is to learn how to do our work; to be masters of our materials instead of servants, and never to be afraid of anything. But the instant we begin to think about success and the effect of our work—to play with one eye on the gallery—we lose power and touch and everything else." It was by Dick Heldar's mouth, too, that Mr. Kipling answered the familiar accusation that he is a barbarian and a facile painter of easy scenes. "I sold every shred of canvas I wanted to," says the scornful young artist, "and on my word, I believe it was because they believed I was a self-taught flagstone artist. I should have got better prices if I had worked my things on wool or scratched them on camel-bone instead of using mere black and white and color." There is no escaping the contempt of that, and it is as applicable now as it was fifteen years ago, for there are still some who profess to that believe Mr. Kipling is but an accident whose success is not based on a clearly conceived theory penned with the true artistic passion for perfection.

His devotion to his work runs through all his writing; it is humorously expressed in the slight verses, "Mulvaney Regrets," sent in response to an invitation to attend a Yale banquet:

"The honest fact is that daily practice
Av rowlin' inkpots the same as me,
Conshumes me hours in the muses' bowers
An laves me divil a day to spree."

"When you grow oulder an' skin your shoulder
At the world's great wheel in your chosen line,
Ye'll find your chances as time advances
For takin' a lark are as slim as mine."

It is more earnestly put in the dedicatory verses printed with "Life's Handicap" in 1891:

"By my own work before the night
Great Overseer, I make my prayer.

"If there be good in that I wrought,
Thy hand compelled it, Master, Thine:
Where I have failed to meet Thy thought,
I know, through Thee, the blame is mine."

But no one who has ever seen a page of Mr. Kipling's manuscript or proof needs any further evidence of the toil and patience with which he pursues the elusive image he is striving to fix. The page is scored, interlined, marked, and crisscrossed with erasures, changes, elisions, transpositions, until often scarcely a fifth of the original remains unchanged, and it is to be remembered that the first copy represented the residue of a much larger output; for Mr. Kipling admits throwing five-sixths of all he writes into the waste basket. If I were to venture an opinion as to Mr. Kipling's shortcomings I should say they were due rather to an artistic theory followed too rigorously and over-closely. The doctrine credited to him, that every word is a picture and that the aim of the author is to put on the page the picture that is in his own consciousness, seems to contain the secret of his power and his weakness.

Anyone who will re-read "Kim," "The Light That Failed," and "The Naulahka" will be impressed—perhaps it is not too much to say oppressed—with the thronging visual impressions which crowd the pages. "Kim" leads you across sun-drenched landscapes

where every figure stands out in brilliant unshaded color, like that picture by Verestchagin of the temple at Delhi, which so glares and blazes in the full noon sun that even in the midst of the art gallery one looks for an umbrella or the shade of a friendly tree. The eye is overworked in Mr. Kipling's stories. The pages remind one of the pictured walls of ancient cities. Always it is image, image, image; whereas the memory, the ear, the backward reaching and reflective mind is often untouched. May we not say that the heart remains too often untouched? Mr. Kipling's prose is like Mr. Sargent's painting. Both are prodigiously clever. Their craftsmanship is unapproachable and their versatility seems boundless. There is in both the same magnificent sweep, the etching stroke, the revelatory line drawn as with a scalpel that penetrates to the marrow of the subject, disclosing with a caricaturist's genius the very soul behind the form, and in both there is the same magnificent opulence of color. Yet after an hour spent before Mr. Sargent's canvases, how gladly one turns to the deep restful tones and shadows of Rembrandt, or the calm validity of Reynolds, whose substantial figures seem to offer life-long friendship.

Who of us can read Esmond or Copperfield with dry eyes? But you may read "The Light That Failed," "The Naulahka," and "Kim" with only one risk of tears — which is the passage describing Kim's recovery, where the dearness of earth and the tenuousness of life are put so touchingly as to bring a catch to the throat.

Perhaps the failure to touch the heart is even more apparent in the poems, which are now more available for careful examination in the single volume, "Collected Verse," issued last fall. On re-reading the old favorites, what is most striking is the appeal to the moral sense, and the insistent note, the note of immediacy, of exhortation, of urgency, whether of perception or of action. The old note, of recollection, of reverie, of abstraction, which once had all the vogue, is not here, as in fact it seems to be seldom heard in our recent poetry. There is little appeal to sentiment. We are all for action now. Yet the old note had its claim and the ear will yearn for it. Mr. Kipling gives us no "Elegy in a Country Churchyard." Lingering cadences and backward glances are not in his books. His greatest admirer cannot find a phrase to cling in the memory like the great lines from Milton of which Matthew Arnold was so fond, nor again like Shakespeare's gorgeous phrase, "incarnadine the multitudinous sea." Nor yet like Wordsworth's

> "Will no one tell me what she sings?
> Perhaps the plaintive numbers flow
> *Of old, far-off forgotten things*
> *And battles long ago.*"

Mr. Kipling is no priest of beauty, living in the joy of adding perchance a line to the age-long litany of her worship. The delight that Keats and Shelley found in the dying fall of an exquisite line, the full, rounded melody of perfect epithet wedded to flawless noun—that is not for this strenuous master of the lyre. There is a rugged energy and a Puritanic austerity about Mr. Kipling which makes him rather the priest of duty, the apostle of efficiency, the prophet of work than a worshiper at the shrine of beauty.

The parallel between his prose and his verse is interesting. The prose has a certain hardness of effect because of the predominance of visual impressions; the verse has a certain severity because of the strongly moral quality of it. This no doubt will seem strange to many lovers of Mr. Kipling's verse who have enjoyed in it a quite different note—the note of delight in mere action, movement, and episode. They, too, are right. The author of "The Recessional," "M'Andrew's Hymn," and "A Song of the English" is also a master of balladry. Witness "The Ballad of East and West," "The Merchantmen," and "Tomlinson." But these only illustrate the breadth of the poet's horizon. A second glance will show that of the three ballads just mentioned two have their moral. In fact, making allowances for his devouring eye and all-portraying hand to which the whole world is but material, the pervading influence in Mr. Kipling's verse is his moralizing zeal.

The judges who awarded the Nobel prize made no mistake. The world does not contain a more impassioned idealist than he. Leaving out of account for the moment his recent poems which have been so greatly affected by patriotic purpose, consider how large a part of all his poetical work has had a moral intent. He has been in fact preacher-at-large to the English-speaking peoples, celebrating with admonitory comment their triumphs, scoring their weaknesses, castigating their sins, interpreting their nature to themselves, and striving with a

passionate earnestness to imbue in them the spirit of devout and instant efficiency.

THE GOSPEL OF KIPLING

He has written "The Feet of the Young Men," "The Long Trail," "To the True Romance," and "The Song of the Banjo," which have life and movement, swing and rhythm, and lift of the heart enough to make the total capital of half of our present-day poets. But consider the body of his work and see how its burden is that of the preacher. When his appeal is to the nation it is in the full tones of the "Song of the English":

"Keep ye the Law — be swift in all obedience, —
Clear the land of evil, drive the road and bridge the ford.
Make ye sure to each his own
That he reap where he hath sown;
By the peace among Our peoples let men know we serve the Lord!"

When he is addressing himself to the individual, as in "The Wage-Slaves," the underlying elements on which his gospel depends are enforced, illustrated, and brought home in a way which does credit to his devout evangelical grandfather. It is sound doctrine, needful everywhere—how needful here and now some of our financial authorities can best tell:

"From forge and farm and mine and bench,
Deck, altar, outpost lone —
Mill, school, battalion, counter, trench,
Rail, senate, sheepfold, throne —
Creation's cry goes up on high
From age to cheated age:
'Send us the men who do the work
For which they draw the wage.'

"Words cannot help nor wit achieve,
Nor e'en the all-gifted fool,
Too weak to enter, bide, or leave
The lists he cannot rule.
Beneath the sun we count on none
Our evil to assuage,
Except the men that do the work
For which they draw the wage."

KIPLING, PROPHET OF ENGLAND

To emphasize the patriot and the moralist in Mr. Kipling is not to diminish the poet; his reputation as poet is secure. It is rather to point out that he is true to the great succession of English poets who, from Chaucer down, have been moralists and exhorters to their people. It is to call attention to one of the sources of his power and promises of his permanence. The purely lyric gift soon passes. The poet who is no longer young must ground his claim to regard on other appeals than that to the ear and the delight in verbal magic. He must lay hold upon the hearts and consciences of his hearers. In doing this Mr. Kipling is already preparing himself for the place held by Milton, Wordsworth, Tennyson — the place of his people's prophet.

Is it not interesting to see how naturally one falls to talking of Mr. Kipling's future? Here is an author who has to his credit twenty-five volumes and we fall readily to talking of him as if his work were only just begun. That is a singular tribute to the power of the man — to the illusion he never fails to give of youth and happy promise.

THE NOVEL THAT IS TO COME

The fact is that Mr. Kipling's readers can never give up the hope of seeing a book of his vastly greater than anything he has yet done. All his novels seem rather to be studies than achievements up to the measure of his power. There is a novel which many of us are waiting for: the novel of black and white in India; the novel forecasted in "Beyond the Pale" that exquisite little tragedy in "Plain Tales From the Hills"; forecasted again in "Without Benefit of Clergy," and more fully prepared for in "Kim." It is a great novel, beyond the power of anybody now writing except the author of "The Jungle Book" and "Puck of Pook's Hill." He has made us expect great things and it is this mood of expectation, of eagerness for "something evermore about to be" which prevents any reasonable attempt to give a final appraisal of Mr. Kipling's work. How can we appraise his work when we are still awaiting the book that is to crown and complete his previous efforts? With an industry and method which rival Tennyson and all great producers, and an invention as fertile as Scott's, there is nothing which seems impossible to him. What he will yet accomplish depends, we believe, on how far he is Anglo-Indian —precocious, early-ripening and early spent; how far true English—like the oak, slow to mature and strengthening with time. If he be like the oaks in his Sussex home and can fall back now in his prime into the steady working stroke of the elder masters of our literature, no expectation which we can frame will be unreasonable.

MR. KIPLING IN FRENCH

BY

LOUIS FABULET

WHO HAS TRANSLATED MANY OF MR. KIPLING'S STORIES INTO FRENCH

IN THE spring of 1898 an English poet with whom I was dining one evening in Paris mentioned to me the name of Mr. Rudyard Kipling, which I heard then for the first time, and advised me to read "The Jungle Book." The next day I bought the book and read it through in a single evening. Ah, the joy of turning those pages, one by one, of being able to prove to myself that during my own lifetime there were in the world men still able to create beautiful things! In France we had not a genius, not a true creative artist, not a spontaneous poet whose power of thought was sufficient to awe the soul of the world and to communicate a sense of universal emotion. There was much talent—more talent and pretension than ever were seen there—but not a singer able to sway the multitudes and to revivify mankind with a new and fresh breath; and I could discern none such about to arise. And France knew not the foreigner, Rudyard Kipling. It knew naught of the store of freshness and novelty, of power and of sanity, in the inspiration of the young Englishman whose name had been renowned for years throughout the rest of the world.

The next morning I installed myself at a desk and, though this sort of work was new to me, labored with the aid of one of my friends at the translation of "The Jungle Book." Never shall I forget the joy of the hours spent at this work. As a child I had never been able to feel myself much attracted toward the animals which men made to talk; but now Rudyard Kipling had found the secret of arousing my interest—my interest, do I say? My wonder and my ecstasy.

THE BIBLE OF THE WORLD

Here was nothing false, nothing unreal. Nature herself was singing. It seemed as though I were reading the Bible of the world. In Mowgli I saw a new Adam, born again into a new earthly paradise—a charming, lovable Adam, nourished only by Nature's counsels and imparting these counsels to me in turn. This manling seemed to have passed through a purifying fire and, freed from all which evil and falsity may inject into mankind in the hodge-podge mass of what we call civilization, heard now only the voice of God and made me spell anew the word Life, and love it with a new fervor. And all this in the teeming cradle of life, in that India which tradition says is the cradle of mankind, in that jungle where life clamors, calls, and bursts forth from the soil with a mighty impetus. Sometimes I seem to believe that Rudyard Kipling—the creator of Mowgli, the singer of all the manifestations of terrestrial life, the dispenser of force — is a sort of Antæus, and that this young Englishman, brought up and nursed in India, in touch with the mother earth, has had renewed in him the pristine vigor, the red blood, and the sinews of steel, the lofty mind and the clear-sighted conscience, and has sprung up again to revivify the youthful energy of the world.

"The Jungle Book" (which dates from 1894, but which in 1898 was still unknown in France), which by a chance I happened to read, at the first reading produced upon me an impression of exceptional power and in a single instant I realized the masterliness of it. It took me back to the primeval consciousness of things, to that feeling for right which naught can swerve; it made me feel as though I had been born anew into a world where, freed from all influence save that of solitude, man begins to think. It showed me the distance which separates man as he should be from the degenerate creatures of the cities, and I felt myself returning to beauty. All was joy for me in translating the book into French. There was not a word, not a line of it, that did not make me vibrate. There have been, since men began to write, four, five, perhaps six noble books which may stand as monuments to our race. I do not hesitate to say it, "The Jungle Book" is one of them. It is an admirable guide, an admirable lesson, an admirable but awe-inspiring standard of comparison.

Having received this overpowering impression—though it was not my intention to continue to follow the business of a translator—I desired to become familiar with the other works of Mr. Kipling. I learned that it was not "The Jungle Book" which had established his reputation, but that he was universally celebrated on account of his barrack-room ballads, his tales of soldiers, and an infinity of other stories where life manifested itself with a fulness of energy of which no writer before him gave evidence.

THE POET-LAUREATE OF ACTION

And so it was that I read "Plain Tales from the Hills," "Many Inventions," "Life's Handicap," "Soldiers Three," and I became acquainted with a Rudyard Kipling very different from that of "The Jungle Book." But the new Kipling was every whit as powerful, and continued to fill me with wonder. It was a world, the world entire, which passed before my eyes—the life of the earth in its striving, the tremendous working force which is spread over the whole face of this planet. Men, animals, and machines, all were in action, and the prodigious poet had divined and laid bare the soul of it all, divined the soul so well that later, in a story called "They," he became to his own (apparent) affright a creator. Rudyard Kipling is the singer who celebrated the railroads, the steamships, the telegraph, the telephone, the electric light—above all, and beyond them all, the astonishing impetus which the conquest of the world by the white man has given to human activity.

Does this signify that on this account Rudyard Kipling ceased to be the poet of Nature and that he has cause to envy the poets of bygone days? If one is tempted to think so let him recall "The Spring Running," that tale which concludes "The Second Jungle Book," when the desire for love awakens in the depths of Mowgli's heart. What poets have written stories more abounding in poetry than the "Finest Story in the World," "Love o' Women," "The Brushwood Boy," "Without Benefit of Clergy," "They"? But Rudyard Kipling is overflowing with poetry; he is the first poet to whose inspiration the most inert matter has appeared in animated form. Everything talks, everything becomes personified. Recall "The Story of the Gadsbys," the scene called "The Garden of Eden." There comes a moment when the eagle that is soaring through space above the young pair speaks, when the line of snow at the horizon far away upon the Himalayas makes its voice heard and become a character, enters into the concert. According to Mr. Kipling, there is nothing which is not a concert for him who has ears to hear it—and well he knows how to hear it. For him the rivets of a ship chant their plaintive song; for him the locomotives hold council and take part in judgment upon the engineers.

From his entire work flows a poetry wide as the world which the poet has traversed, and which he seems to have at his finger-tips. The other day I translated a little story of six pages called "The Limitations of Pambé Serang." There, Mr. Kipling brings before you two sailors—an Asiatic, subtle, vengeful, inaccessible to any feeling of goodness, and an African with a child's heart, loving, forgetful of wrong. Is it simply the story of two sailors, one of whom kills the other out of spite and for a slight offense? Is it not rather the history of two countries? These six pages, where power of observation attains a prodigious height, will suffice to show that the author has not only traversed the earth and everywhere laid hold upon the spirit of it, but that he has given us to-day an insight into this spirit with the power of a master.

KIPLING'S MEN IMMORTAL

Mr. Kipling has been reproached for not having the art of creating personages. It has been declared that the characters of his stories do not remain in the memory. Strange reproach, seeing that never have there been characters so vivid as his; and if they do not remain in the memory it is because they are as numerous as the inhabitants of the world and memory is not vast enough to retain them all. In any event, Mowgli, I hope, lives in the memory of all; and he who created him has come very close to God. And Bagheera and Akela and Baloo and Kaa and Hathi and Shere Khan and Ikki the porcupine, and even down to the Bandar Log—do not these remain in the memory? And Kim and the Lama, once you have made acquaintance with them, do they not march eternally, in the memory, along the Great Road of India? And Ortheris, Learoyd, and Mulvaney, are they not known throughout the universe even as Aramis, Porthos, and d'Artagnan? Must we draw out the list? It would be interminable. How they persist in the memory, the people of Rudyard Kipling! I do not

wonder that it may be difficult to remember their names, since they are the world, all the vast world—and I ask, has any artist created characters more vivid?

KIPLING'S RECEPTION IN FRANCE

The task of translation was a foolish one and I took it up almost against my will. "The Jungle Book" has had a relative success in France. The *Revue de Paris* published the greater part of the translations of the stories in it, and M. Jules Lemaitre wrote in the *Echo de Paris* an unsolicited article in which he showed the enthusiasm and the surprise which the reading of these stories had brought to him. However, it was difficult to find a publisher and we saw the gates of the principal houses closed against us. It was the *Mercure de France* which opened its doors to us and we gave in six months "The Jungle Book" and "The Second Jungle Book." Then, but treading the most dangerous ground possible for one who knows France, and making a very cautious arrangement, we gave "The Finest Story in the World," "Love o' Women," "The Man Who Would Be King," "The Man Who Was," and "The Drums of the Fore and Aft," accompanied by short stories, judiciously and fearfully chosen, from the "Plain Tales from the Hills" and some of the other writings. I gave up all other work, applied myself to the task, and bit by bit gave several other volumes of stories selected from almost everywhere in his entire work. Then came "Kim," that poem of the mountain; "Captains Courageous," that poem of the sea; and it was but the other day that, with the devoted aid of an Englishman—Mr. Arthur Austin Jackson, nephew of Sir Alfred Austin, the poet laureate—I gave to my countrymen "The Return of Imray," ".007," "The Ship that Found Herself," "Dray Wara Yow Doo," "The Phantom Rickshaw," "The Head of the District," and "They." The greatest prudence, in fact, had to be exercised. I knew that the genius of Mr. Kipling would not impress itself all at once upon my countrymen, but I felt that they had need to have infused into them this vigorous elixir of regeneration. It seemed to me that I was doing a good deed in causing them to read the work of Mr. Rudyard Kipling. It is true that the French still show much oppostion to it, but I hope that I have conquered the open mind of the youth of the land, for success is apparent. Have there not been printed in the course of the year 1907 nineteen editions of the different volumes of translation which I have published in the *Mercure de France?*

Certain English critics have treated as a reactionary this admirer of the soldier, of war, of property rights, of human energy. They have pretended that his influence would serve only to retard the march of the world. For me his work could never be reactionary nor could it retard the march of the world—a work which approximates so closely the cinematograph and diffuses so widely an acquaintance with mankind, which brings together so many conflicting circumstances, so many types, so many diverse nations! But it all has the hall-mark of good sense. Ah, I know well what the "intellectuals" carp at! It is because Mr. Kipling lends himself neither to paradox nor to utopianism; it is because he carries no stock of sweetmeats into the prisons; it is because he finds that man was created for action and struggle rather than for enjoyment and laziness.

For my part, I possess my soul in patience and slowly accumulate translations and volumes of stories; and it has happened to me to receive letters, which give me a great deal of satisfaction and furnish me with proof that I am not deceiving myself. Here, for instance, is one, from one of our most distinguished and versatile men, which he sent to me after receiving my last volume of translations:

"You must know by experience that I very rarely return thanks for the books which are sent to me; but truly I have just tasted too much pleasure, thanks to you, not to shake off for a moment my rôle of silence. This cursed literary freebooter against whom all my teachings bristle up is, all the same, a very interesting and surprising rascal. A little more and he would be of the Chicago school of journalism. At the precise point where he is about to attain this distinction, with an inconceivable mastery he stops short, and there remains one of the most bewildering literary manifestations of modern times—perhaps the most bewildering of all.—ANDRE GIDÉ."

In this way I have been led to follow, step by step, the work of Rudyard Kipling. I have not plunged into it all at once; I have absorbed it slowly and my admiration has grown day by day. And it is only a little while ago that I came to make acquaintance with his verse—the beauty of "White Horses" and the charm of "Mandalay"—without hoping ever to be able to translate them.

THE HUMAN TOLL OF THE COAL-PIT

MORE AMERICAN MINE DISASTERS AND A FAR HIGHER DEATH-RATE THAN IN ANY OTHER COAL-PRODUCING COUNTRY—THE REMEDY

BY

EDGAR ALLEN FORBES

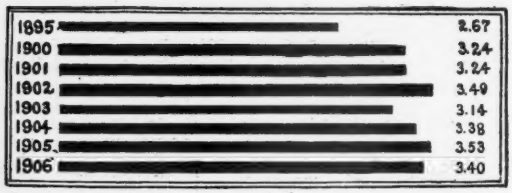
(WHO WENT TO THE WRECKED MINE AT MONONGAH, W. VA, IMMEDIATELY AFTER THE DISASTER IN WHICH 400 MEN WERE ENTOMBED, AND GATHERED HIS INFORMATION AT FIRST-HAND)

IN THE footsteps of every man that goes into the darkness of a coal mine, dodging this way and that in the shadows cast by the flickering lamp on the miner's cap, follows the spectre of Death. Yet to the miner it is all in the day's work.

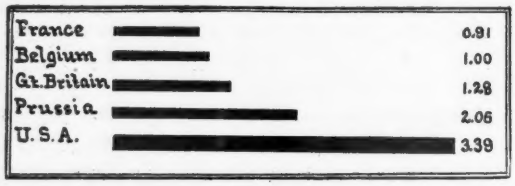
But though the man of the pit has grown to look on danger with contempt, it is not so with the woman on the mountain-side, the mother of his children. Throughout all the hills of coal the dark cloud of dread never lifts from her horizon, and it oppresses her sleep as a nightmare. Alongside the airy castles that her fancy builds for the future of her children, looms the orphan asylum. If a thunder-clap comes suddenly out of the sky, her first instinctive thought is of the mine. She is no nervous weakling, this miner's wife, but she daily bids her husband and sons good-bye with the same apprehension as have the women of the city whose husbands wear the uniform of fire-fighters.

If to the producing cost of a ton of coal were added its proportionate cost in human life and grief and misery, the selling price would restrict its use as an ordinary fuel. But grief and misery are not commercial terms, and life becomes a thing of concrete value only when coal operators feel the scarcity of labor, or when a jury's verdict convicts them of gross negligence. Not until grave economic conditions begin to imperil the store of coal reserves or to threaten a reduction of dividends, do legislators and stockholders seriously contemplate sweeping measures for reform. Thanks to a series of terrible disasters, that time has come. Early in December a representative of the Government, gathering data to show our need of a national Bureau of Mines, was at the Naomi Mine in Pennsylvaina, where about 35 men had lost their lives. He had not completed his report when a telegram called him to Monongah, in the Fairmont region of West Virginia, where a great hill had suddenly become the tomb of approximately 400 men. In the week that followed came a report from an Alabama mine that 60 men had been lost; and before all the bodies had been taken from Monongah an almost identical disaster in the Connellsville region of Pennsylvania took from a village practically all its bread-winners. To add to the horror and pity of the record, all of these disasters were probably preventable. A nation of organizers and systematizers, we have not yet systematized the industry of mining.

Yet mining is one of our great industries and coal-mining is the basis of much of our industrial wealth. We make the best mining machinery in the world and we send it to every region where men go down into the pit. We have, in the American Institute of Mining Engineers, one of the most distinguished scientific bodies in the world, and some of its members have won international fame as consulting engineers so far away as South Africa, Turkey, Australia, and South America. And yet——

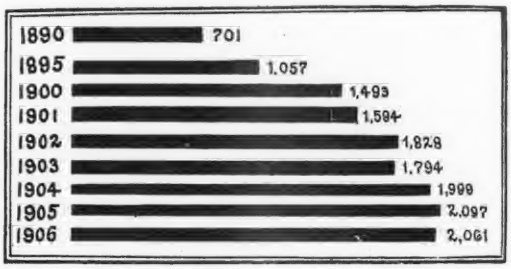


THE DEATH-RATE PER 1.000 MEN EMPLOYED IN THE COAL MINES OF THE UNITED STATES



DEATH-RATE PER 2.000 MEN EMPLOYED IN THE COAL-PRODUCING COUNTRIES—AVERAGES FOR FIVE YEARS

We are killing more men in the coal-mines of the United States now than ever before in our history—701 in 1890, 2,061 in 1906. True, we have more miners at work, but we are killing more out of every thousand employed than ever before—2.67 in 1895, 3.40 in 1906. The showing appears worse when contrasted with that of other coal-producing countries. Taking averages for periods of five years, we kill more than three times as many per thousand employed as are killed in France or Belgium, and nearly three times as many as in Great Britain. In Prussia, which has the worst record in Europe, the percentage is only two-thirds as large as ours. And we kill more per million tons of coal produced than we ever did before or than any other country kills now—4.97 in 1890, 5.57 in 1906. Yet the coal mines of the United States can be more easily worked and with less danger than those

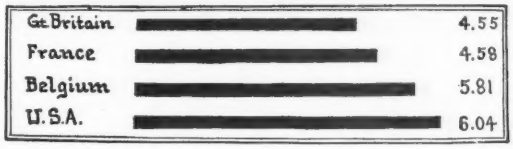


THE INCREASING FATALITY OF COAL-MINE ACCIDENTS IN THE UNITED STATES

The figures at the right show the number of men killed

of any other coal-producing country. Our mines are newer and less deep than European mines, and are less gaseous. Surely, in the light of these well-known facts, our record is inexcusably bad.

If the humiliation be not sufficient to arouse us to correct the evils that account for the record, here are some stern facts that must soon force us into action. With the exhaustion of our most accessible coal, both national and state governments will presently demand that there be less waste in mining. As our mines increase in depth, the business of mining will become increasingly difficult, dangerous, and expensive. The selling-price of coal will naturally advance with the cost of production. When the man who brings coal to our cellars begins to ask in the middle of summer the price that he now asks in the dead of winter, most of us will begin to take a personal interest in the problems of mining. But humane consider-



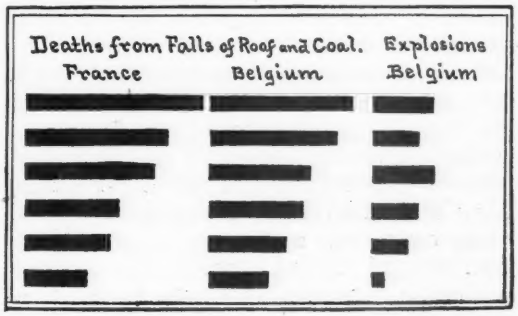
NUMBER OF MEN KILLED FOR EACH MILLION TONS OF COAL PRODUCED

Averages for five years

ations alone should lead to prompt preventive measures. Every mining disaster is a blot on our civilization. Look at this picture, sketched from life—and death.

A DESCRIPTION OF ONE MINE DISASTER

Between Fairmont and Clarksburg, in West Virginia, shut in by surrounding hills that rise almost vertically from the banks of a small river, is the little town of Monongah. It is wholly a mining village and there are nearly thirty others in the same region. On a Friday that has gone down in the mining history of this country, about 400 men and boys went jesting and laughing into two yawning caverns that open in the hillside half-way up from the river that separates the town from the mine. Down the slanting tunnel the lights of their caps flitted about in the darkness like fireflies, and then disappeared. Two or three hours later, with a sullen roar, the whole hill-country was shaken by a quake that rattled the windows in Fairmont, six miles away. For a moment, the heart of every woman in the little cabins on the hill stood still with a horrible fear. Then, dropping their work and catching up their babies, leaving the older children to follow as best they could, the women made a frantic rush for the two entrances, a mile and a half apart. At one, they found the superstrucure demolished and the passage choked with débris, at the other, the fan had been disabled—and fans are the lungs of a mine. From both tunnels



THE DECLINE IN THE DEATH-RATE IN THE COAL MINES OF FRANCE AND BELGIUM

poured a volume of smoke and dust and gas. But from this great cavern, with a floor area as large as two Kansas farms, came not a sound of life, not a smothered cry for help. Of the 400, only one came forth alive.

With the hundreds of shrieking, half-crazed women and wailing children about the mine came every man left in the town. They were not men that needed to be encouraged by feminine distress to do brave deeds; if heroism could have saved those inside, most of the victims would be living now. Frantically they cleared away the wreckage at the entrance and tried to force their way into the tunnel, but they began to drop in limp heaps and themselves had to be rescued. Then they settled down to the furious but systematic work of pushing the air ahead of them. In the necessity for this lies the explanation of the fact that it is often several days before the victims of a mine explosion can be reached.

Take as an example the entrance known at Monongah as No. 6. When the mine was first opened, a tunnel about eight feet wide and high had been driven slantingly into the mountain, along the seam of coal. When it had advanced about fifty feet, a similar tunnel was driven parallel to the first and distant about forty feet. When these two tunnels were connected in the hill, a circuit was made for the fresh air to enter and the foul air and gases to pass out. Then the tunnels were extended another fifty feet and connected at that point, the first connection being sealed up to favor the draft. This process continued until the tunnel had gone back into the hill for a distance of about a mile and a half. From this "main heading," smaller headings were cut at right angles so that the coal on either side might be taken out. These smaller headings lead into "rooms" or caverns made by the extraction of the coal. The same system of ventilation was required at every step in order that the current of air might reach the men at work in the rooms. To increase the draft, a powerful fan was placed at the entrance outside the mine.

The explosion filled the mine with an atmosphere of "black damp" in which no human being could live, blocked the main heading with wrecked cars and timbers that restricted the inrush of air, and demolished one of the fans. It also opened up all the passageways that had been sealed, and thereby prevented the draft of outside air from rushing straight through the mine. The rescuing party planned to work their way first through to the end of the main heading, bring out any men that might have fallen unconscious in the passageway, and extricate any that might be penned up in the rooms. This plan was carried out, but the rescuers could advance no faster than the air; it was necessary to stop at every opening and seal it up with canvas before the air would pass further inward—and they had to do this at a time when every moment of delay was perilous to any that might be yet alive and when their strongest men were dropping from inhalation of gases. Long before they reached the end of the tunnel, however, all hope of saving life had fled. From the room headings came no sound of imprisoned men. The rescue problem finally became a question of getting the bodies out, identifying as many as possible, and burying all decently.

"What does a mine explosion look like?" said a visitor as he came from the scene. "Like this: Think of hell as a hollow hill and imagine that its power-plant has exploded and blown a hole in the hillside. Then imagine a handful of reckless, begrimed men going into the cavern with lanterns, with sulphurous fumes in their faces, and dragging out the charred bodies of men, some with their faces burned off. That is what Monongah looked like."

The scenes in Monongah on Sunday were more harrowing than those of a battlefield. The first visitors from Fairmont saw a reproduction of the Inferno. It was not yet dawn in the town and the white clouds of steam from the power-house looked ghostly against the background of hills as they floated past the electric light. About the entrance waited a score of weary men, some of them exhausted, the lamps on their caps giving them the appearance of demons. Out of the pit, now and then, straggled men carrying safety lamps in their hands, the pallor of their faces showing through the coal dust that covered them; these were members of the exploring party that had come to revive themselves in the air. They came out dripping with perspiration and stood in an atmosphere that was uncomfortable even to men wearing overcoats. There was none of the tumult and the shouting. When dawn lit up the sky, it outlined the forms of shivering women high up on the hill-top, watching the mine entry.

Finally a horse came out of the hill and behind it a train of empty mine-cars, but the

last car was loaded and covered with stained canvas and blankets. The coverings were thrown off and one by one the blackened and mutilated bodies of what had once been men were carried to the waiting wagons, to be hauled over the bridge into the town and delivered to the undertakers. Only a few men saw the victims as they came from the mine. If identified, the families were notified; if not, the bodies were placed in rows in the bank building. In many cases the identification could be made only from the brass checks in the men's pockets, so terrible had been the force of the explosion. Seventy-five men digging graves on the hillside, a depot platform piled high with pine boxes, a row of coffins in the main street stacked three high and nearly a block in length, a corps of undertakers as large as a regiment's hospital corps, women whose eyes could weep no more, with orphaned children clinging to their skirts —these were some of the evidences that there would be no Christmas in Monongah for another year. And yet the Monongah mine was second to none in the state in its reputation as a safe and well-managed mine.

THE PREVENTION OF MINE ACCIDENTS

That the frequency of mine accidents can be reduced and the fatality brought down to a low percentage has been clearly shown in countries where, without neglecting methods of increasing the output, more consideration is shown for the lives of men. Fifty years ago the death-rate in the coal mines of Belgium was almost as large as ours is to-day; wise management, based upon scientific investigation, has reduced it two-thirds. One of the diagrams shows how steadily the fatality from falling roofs and explosions has been lowered in France and Belgium. In Great Britain, whose mining laws are becoming more and more rigorous, the result is shown in the following table:

DEATHS IN THE COAL MINES OF GREAT BRITAIN PER 1,000 MEN EMPLOYED

YEAR	EXPLOSIONS	FALLS OF ROOF AND COAL	ALL CAUSES
1851	1.87	1.90	5.47
1875	.68	1.07	2.68
1890	.57	.86	2.09
1895	.10	.75	1.63
1903	.02	.84	1.36
1906	...	...	1.29

Since coal-mining operations are essentially the same in all countries and the causes of accidents practically identical, it is reasonable to infer that methods which have pulled down the death-rate elsewhere would have the same happy result here. An examination of those methods shows how simple they are.

(1) Safety lamps in gaseous mines.—European countries have inflexible rules against the use of open lamps in mines where the presence of gas has been detected; at any moment the stroke of a pick might open a "pocket" of gas and the lamp would of course ignite it. But miners prefer the open lamps and will not use the others unless required to do so. The victims at Monongah were working with open lamps on their caps; it was two days after the explosion before a supply of safety lights sufficient even for the exploring parties reached the mine. By way of contrast, take the experience of Dr. J. A. Holmes when visiting a Belgian mine. Though accredited from this Government as a mine expert, he was required to make a complete change of clothing before entering the shaft. This was their way of making sure that no matches entered the mine.

(2) Limiting the amount of explosive.—Just about half of the deaths in the coal mines of all countries are due to falls of roof and coal. Some of the accidents spring from carelessness in supporting the roof, but the chief cause is the use of large charges of powder. These weaken the overhanging coal and earth, and even a small blast may at a later date precipitate an avalanche of débris on the workmen. The United States is the only coal-producing country that sets no limitations on the use of explosives. Other countries not only fix the amount allowed to each miner and the amount for each charge, but also limit the total amount allowed within a mine at one time.

(3) Forbidding dangerous explosives.—European mines have worked out the problem of adapting the kind of powder to the character of the mine. Some of them can use charges of safety powder weighing 700 grams in places where 30 grams of the other kind of powder always caused an explosion of dust or gas.

(4) The use of shot-firers.—In the gaseous mines of Great Britain, the explosives are not fired by the miners but by experts known as shot-firers. A similar practice is enforced in Iowa and Illinois. The shot-firer knows the proper amount that can be used without weakening the roof, and he also acts as a check upon the careless drilling of holes, thereby preventing imperfect shots that may ignite gas or coal-dust. Some explosions do occur under

this system, but the shot-firers are the only men in the mine.

(5) Sprinkling the coal-dust.—The dust from soft coal covers the tracks of the mine-cars, collects on every piece of timbering, and floats as a fine powder through the air. It is highly inflammable and explodes with terrific force. Many gas explosions would be comparatively trivial if the flame did not communicate itself to the coal-dust. But coal-dust can generally be kept down by sprinkling and keeping the air moist, just like any other kind of dust.

(6) Adequate ventilation.—This is secured in several ways in the European mines. Our engineers know how; the essential point is to see that it is secured and that the air passing through the mines is kept moist.

(7) Efficient inspection.—This is the weakest link in the chain. Assuming that the inspectors are faithful, the present state of mining knowledge forbids the assumption that they are competent. The Monongah mine was one of the "show" mines of the state; the Alabama mine was inspected just before the explosion, the inspector having just come out of the mine after complimenting the men on its condition.

(8) Emergency outfits.—The Europeans have devised appliances whereby a few men are enabled to enter a mine immediately after an explosion.

Perhaps the best solution to the problem of accidents will be the proposed National Bureau of Mines, which will become a great clearing-house of information. The results of its own investigations and of those carried on in Europe will be placed before every mine operator in the country, and much can also be done toward educating the individual miner. Dr. Holmes, who has already developed information of national importance as the result of his fuel investigations, proposes to build a miniature mine of steel, fill it at different times with various kinds of gas or with coal-dust, or with both in varying proportions, and make a test of the kinds of explosives now in use in this country to determine the quantity of each that can safely be used in the presence of dust or gas.

Unless something be done to safeguard the lives of the men in the mines, the native American miner will shortly disappear from the hills of coal. Even now he is only a minority in most of the soft-coal regions. With a steady stream of muscular aliens flowing into the country, the operators have not concerned themselves much about the natives, but as the mines go deeper and the call for intelligent labor becomes stronger, the American will be needed. I found in West Virginia an increasing reluctance to work in mines where foreigners were employed. The Americans will tell you that it is not a question of race or of union labor, but a question of safety; that mining is a business that calls for something more than brawn and muscle.

I understood what they meant when I stood at the entrance to the wrecked mine at Monongah and watched the men "on the job." They were exploring a thousand acres of cavern under circumstances that tested many of the finest qualities of manhood. To the physical strain was added the peril from falling roof, from suffocation by gas, from another explosion. Every step in the work called for discriminating judgment, for the future of the mine as well as their own safety was involved. And to the danger was added a task that tested their nerves still more: it was theirs to take out of the wreckage the mutilated bodies of their neighbors and friends—and this in an atmosphere above summer heat, filled with the odor of gas and decomposition. And they did it. When one of them dropped, he was carried into the current of air; if he revived, he resumed work; if not, he straggled back to the surface and rested until the next shift went in. The explosion had occurred on Friday morning, but when I left the mine on Sunday afternoon I saw men going in that had not been to their homes since the accident happened; some of them had not slept. A doctor stood by the entry and gave some of them tablets to stimulate their overworked hearts and lungs.

I watched the faces of the men and recognized the type. All of the young foremen in charge of the shifts and practically all of the volunteers were West Virginia mountain-folk. The mine manager had apparently excluded the aliens.

"What is the matter with the foreign miners?" I asked an intelligent young fellow resting in a coal-car.

"They can't stand it," he said. "They can handle a pick all right, but when something happens they lose their heads."

While we are giving thought to the preservation of our coal reserves, it might be wise for us to pay some attention to the reserves of American manhood in our coal mines.

ONE TON OF COAL TO DO THE WORK OF TWO

THE GOVERNMENT WAY OF LENGTHENING THE LIFE OF THE SUPPLY ON THE PUBLIC DOMAIN—LESSONS FOR EASTERN COAL FIELDS

BY

ARTHUR W. PAGE

THE problem of preserving the coal supply is important alike in the Eastern and in the Western States, but the National Government is more directly responsible in the West. For this reason its work there is the more instructive.

There are 215,000 square miles of coal land west of the Missouri River. Even from the car-windows, the lignite outcroppings are visible. Yet last winter the people suffered physically for lack of fuel. Coal costs $15 or $16, sometimes $20, a ton on the Pacific slope. Portland, Ore., is importing a supply from Australia, although there are coal deposits in both Oregon and Washington, and there is more coal in Montana than in any other state in the Union. The president of the American Mining Congress, who lives in Boise, Ida., has sent to Pennsylvania for his winter supply, in spite of the fact that there are millions of acres of coal in the adjoining states—Utah and Wyoming.

THE CAUSES OF THE COAL FAMINE

This unfortunate condition is due primarily to the coal-land law passed by Congress in 1874. It provided that any citizen could buy 160 acres of coal land from the Government for $20 an acre if it were within fifteen miles of a railroad, or for $10 an acre if it were farther away; but under no circumstances could any one buy more than 160 acres. That is too small an amount to mine profitably, and the law, if enforced, would have prevented the development of the coal business. In practice the law was disregarded, although it still remained upon the statute books. Under its provisions 400,000 acres have been patented, while 15,000,000 acres have been obtained by other means. Ignorance, laxity, and fraud account for this. The law has been effective in less than 3 per cent. of the land disposed of.

The railroads and their allied companies have become the greatest coal owners, as was natural. But their domination of the industry has added a fresh discouragement to the development of the coal resources. Coal that costs $1.50 at the mines sells for $3.50 or $4.00 in the towns. The freight rate is so large in proportion to the profit on the coal that a small reduction in it to one company would make an insurmountable discrimination against a rival. Such things have happened. A coal mine cannot afford to be on anything but friendly terms with its railroad, for unless there is a constant supply of cars the mine must shut down. It does not pay to rehandle coal. A lack of cars, or even a delay in their arrival, means a serious loss to the mines.

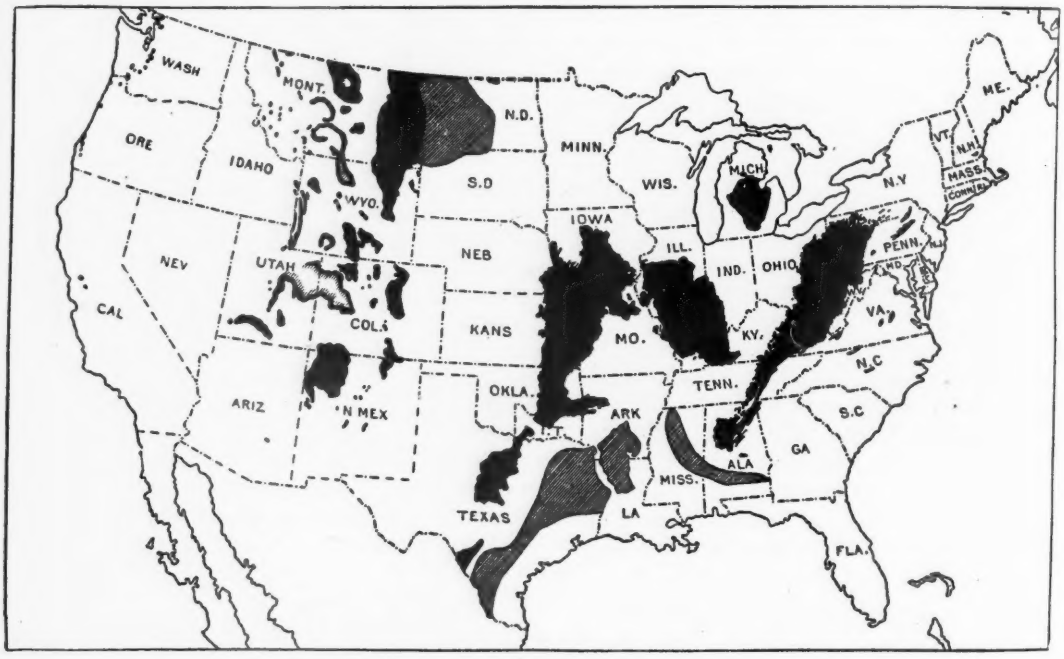
The present bad condition, therefore, grew up naturally under an unwise law which drove some men to illegal methods and invited all to use them, an opportunity that some willingly accepted. Thus the railroads have built up a quasi-monopoly which is unable to supply the demand, leaving the people of a coal-bearing country suffering for fuel.

THE REMEDIES

After the enforced resignation of Binger Hermann from Land Office and the subsequent exposures, the Government began to prosecute violations of the coal-land law. Three men were convicted at Sheridan, Wyo. The Union Pacific Coal Company returned to the Government a large tract that it had wrongly acquired in exchange for less valuable land in the National Forests. A suit for another tract was instituted but it also will probably be returned without contest. There are a great many indictments now pending.

But while the Department of Justice was catching land-grabbers here and there, the land-grabbing game was going merrily on.

At one time there were entries pending for 9,256,000 acres of what was supposed to be coal land. But the Land Office did not know accurately whether it was or not. The Government was giving away one of the great natural resources with its eyes shut. Then the President withdrew 71,300,000 acres of land from entry, until it could be examined and classified, and he announced the policy of his administration to be a system of leases for the coal mines still belonging to the Government. This was not a suddenly adopted plan. It was the result of the investigations and recommendations of the experts in the Geological Survey. The coal supply, it maintained, was more in need of conservation than any other of our natural resources; for, when it is exhausted, there can be no replenishment. The Survey estimates that there are about 2,200,000,000,000 short tons of coal left in the United States. Yet the present increasing rate of consumption will require all that in 200 years; some authorities say in 100. But before the supply is exhausted we shall be getting coal from low-grade deposits, from great depths, or from remote points. When that time comes we shall be in the throes of a continued coal famine, for the price will be prohibitive to many manufacturers and to the poor. Certain kinds of coal are even now becoming scarce. Good coking coal sells for as much as $2,000 an acre. Anthracite is used less for steaming and more for domestic consumption because of its high price. The Pennsylvania anthracite will probably not last more than seventy-five years longer.



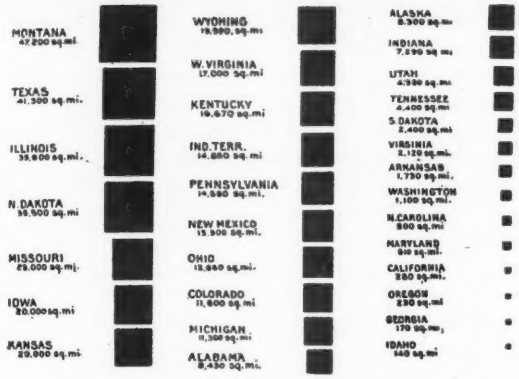
THE COAL AREAS OF THE UNITED STATES

The black areas are anthracite and bituminous; the shaded areas are lignite. Much of the low grade bituminous and the lignite now nearly valueless, will be good fuel under improved methods of use

COAL CONSERVATION

The Administration's plan does not mean the hoarding of the present supply for future use; it merely provides that it shall be so used that none of the coal is wasted in mining, and as much as possible of the power of the coal shall be developed in its use. It is hoped also that the plan will end the old system of fraud and corruption, and to some extent relieve the coal scarcity in the West. The President's recommendation in his latest message was as follows:

"In my judgment the Government should have the right to keep the fee of the coal . . . fields in its own possession and to lease the rights to develop them under proper regulations; or else, if the Congress will not adopt this method, the



THE COAL AREAS OF THE DIFFERENT STATES
Showing the large coal deposits in the West. Most of it is low grade

coal deposits should be sold under limitations, to conserve them as public utilities, the right to mine coal being separated from the title to the soil. The regulations should permit coal lands to be worked in sufficient quantity by the several corporations. The present limitations have been absurd, excessive, and serve no useful purpose, and often render it necessary that there should be either fraud or else abandonment of the work of getting out the coal."

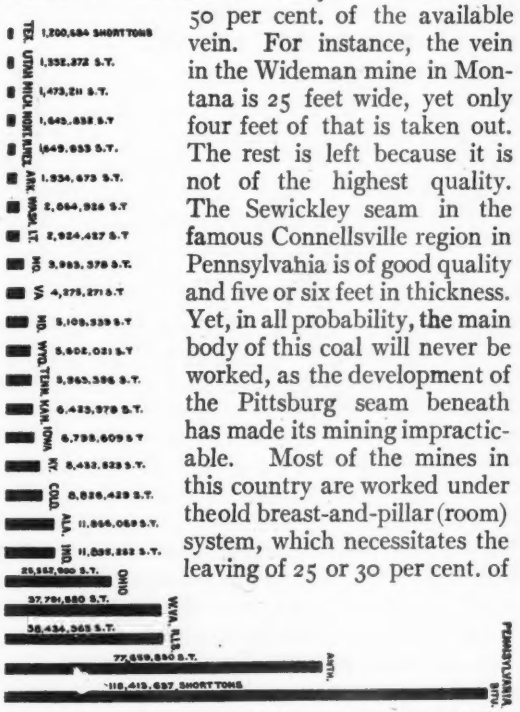
Under what is known as the leasing system, the Government would allow a company to mine the coal, under restrictions, for a payment of a certain royalty per ton. Senator La Folette has made a great point of the fact that the Government should retain the title to the land. The opponents of the measure have laid great stress on the same point: "The Government is going into the coal business," they say. But leasing a mine and charging, say, ten cents a ton royalty is little different from selling the coal at ten cents a ton, which does not differ radically, as far as governmental theory is concerned, from selling it at $10 an acre.

The plain facts are that the Government was outrageously cheated—or cheated itself—when it sold the coal land by the acre, and the Administration thinks that by selling the coal by the ton—as the Northern Pacific Railway does, for example—it can get more for the coal and maintain more respect for the law than hitherto.

LESSONS FROM GERMANY AND CANADA

This may mean more centralization of the governing power. Nevertheless, it seems advisable to profit from Germany's example, if possible. Private owners got control of the German coal-fields many years ago, and only lately has the Government begun to realize that the German people were not getting the full benefit of their fast-diminishing heritage. Their Government has now spent $71,000,000 in an effort to buy back their coal-fields. By an Order of Council of last March, Canada put the coal lands still belonging to it under the system which the Administration is advocating here.

This policy was not designed to stop land frauds nor primarily to increase the revenue (nor does our Government care about the revenue) but to save the coal; and that is also the most pressing need in the United States. The Government mines worked by private companies in Canada must conduct their operations under the government regulations. The result is that the mines are worked clean. In one which an expert from the Geological Survey visited, the company was taking out 98 per cent. of the coal. The miners worked backward from the end of the galleries toward the shaft, taking all the coal with them as they went. By this "long-wall" method the wastes which have occurred in our Eastern coal-fields would not be repeated in the West. And this waste is enormous. In many mines it reaches 50 per cent. of the available vein. For instance, the vein in the Wideman mine in Montana is 25 feet wide, yet only four feet of that is taken out. The rest is left because it is not of the highest quality. The Sewickley seam in the famous Connellsville region in Pennsylvania is of good quality and five or six feet in thickness. Yet, in all probability, the main body of this coal will never be worked, as the development of the Pittsburg seam beneath has made its mining impracticable. Most of the mines in this country are worked under the old breast-and-pillar (room) system, which necessitates the leaving of 25 or 30 per cent. of



THE COAL PRODUCTION OF THE DIFFERENT STATES
Showing the small production in the West and the large output from the Pennsylvania fields

the coal as roof-supports. When the mine is abandoned all this coal is lost. Saving this waste is equivalent to the discovery of new coal-fields. There is another waste which goes on at present, which would also be obviated. There are now about 30,000,000 acres of land that might profitably be used for agriculture, grazing, or forestry which are merely being held by the coal companies to maintain their title to the coal below. To separate the title to the surface from the title to the coal would release this land for settlement and use.

This is the plan of the Geological Survey to mitigate the present evils and provide a better supply of fuel for the future. There are two sources of opposition—one from the beneficiaries of the old system of graft and the other from an honest difference of opinion.

"All these regulations will retard the growth of the West," "It is paternalism, a government by bureaus," etc., etc. By whatever name it is called, it is certainly a change—which is always objectionable to some people—toward a sensible recognition of the conditions under which we live. The Administration's plan, although probably not perfect, is the only active plan for doing this.

THE USE OF GAS-PRODUCERS

Besides taking all the coal from the ground, there is another method of increasing the life of our coal-fields. As a rule only about 5 per cent. of the heat of the coal which reaches our furnaces is transformed into available power. The rest is lost in smoke, gases, friction, etc. If a locomotive transformed all the energy of the coal into driving power, the railroads of the United States would need only 5,000,000 tons of coal a year instead of 100,000,000 tons. The most efficient engines at present convert about 10 per cent of the coal's energy into available power. Every improvement in boiler or engine is the same as the discovery of more coal. On this problem, too, the Geological Survey is engaged. At St. Louis, and later at Norfolk, it exhibited a contrivance which looks much like a huge old-fashioned, round stove, without a chimney. It is a gas producer, an invention which has been known for some time and which to some extent is already in use abroad. Its introduction into this country means that the 30,000,000 or 40,000,000 acres of lignite in the West, which have hitherto been of little value, can now be used as efficiently as the good Eastern steaming coal. It will also save for commercial use the millions of tons of low-grade bituminous coal which is now thrown away on the dumps. To make the hot fire necessary for steaming, coal must have a high percentage of fixed carbon and a small percentage of moisture, ash, and volatile matter. The large percentage of fixed carbon in anthracite and good bituminous coal is unnecessary in the gas-producer. It is a circular, air-tight furnace in which the coal is partially burned, thereby producing gas, which is supplied to a combustion engine which transforms its energy into available power. To get power from coal by this method needs no boiler, nor steam-engine. There is no smoke and the ashes are the only waste. During the tests at St Louis, a plant of this kind got more power out of North Dakota lignite than the steam plant could get from the best West Virginia coal. This prosaic-looking machine gives new possibilities to the development of the Rocky Mountain States. Most of the lignite outcroppings now lie undeveloped. Some of them are even on fire, as the one at Newcastle, Colo., which has been burning for five years. But when the gas producers come into use these outcroppings will support manufacturing towns and cities, like the Eastern manufactories but without smoke and dirt. There will be fewer trains carrying coal for their own locomotives. Some of the thousands of cars that are now used for that purpose will be doing other service The energy of the lignite will be changed to electricity at the mines and distributed by wires which will carry the power of hundreds of carloads of coal.

A SAVING BY BRIQUETS

Besides the use of the gas-producer, the investigations of the Survey have demonstrated another method of using coal which has been going to waste. Much of the slack non-coking coals can be made into briquets and thereby given the value of the best lump coal. There are now briqueting plants in San Francisco, Kansas City, and Brooklyn, and a fourth in Western Pennsylvania. The investigations have proved also that many coals which had been considered as non-coking can be made into commercial coke, and that some low-grade bituminous coals and lignites can be used for the manufacture of valuable byproducts. The Survey has also analyzed and tested many coals. I happened to be with one of the experts in Medford, Ore., when he heard of a new vein

there. He immediately went to it, and with a pick began to chip off a sample in the end of one gallery. This was chipped equally from all across the face of the vein. When we got it outside in a linen duster, we crushed it thoroughly, mixed it, and divided it into quarters, one of which was dumped into a sealed can to be sent to Washington. There its analysis can be seen along with those of many other coals. From them the mine owners and the consumers can find out of what their coal consists and how it can be used most advantageously.

That all this work may be carried on more extensively and that some method may be devised for stopping the awful disasters in the coal mines—and for other reasons—the American Mining Congress has asked that a Bureau of Mines be created in the Interior Department, and the President has recommended this to Congress. If the recommendations are carried into effect, the new bureau will be the technological branch of the Geological Survey, endowed with funds and power to—

(1) Manage the 30,000,000 acres of coal land still belonging to the United States so that they will yield the greatest amount of coal now and in the future.

(2) Continue its experiments to find new methods of using the coal more efficiently.

The success or failure of a Bureau of Mines in dealing with the coal problem would greatly affect our commercial progress, for our permanent prosperity will have to depend on economically managed fuel.

The men in Washington who are working for the better use of our natural resources—the land, the forests, the water courses, and the minerals—have the support of a large part of the American people of all professions and ranks in life. A great practical economist like Mr. James J. Hill is found quoting the late Professor Shaler, a great teacher, to prove that the nation's resources must be preserved.

A FEW GOOD BOOKS

THE great Cambridge Modern History, which was the dream and remains the legacy of Lord Acton, goes steadily toward its completion. Volume 10, covering the period from 1815 to 1840, draws nearer us in time. As the editors say in their preface, they have found the task increasingly difficult as they approach the present day, but the volume in hand gives no indication of failure of method or of skill. It is one of those strong, substantial, durable books which, like the "Dictionary of National Biography," has given character and distinction to the British publishing of our time. This volume is the joint work of nineteen scholars and covers the field of the modern world, giving, what is rare in history, an adequate treatment of the literary achievements in England of the period which it treats. Such a work is of great interest and suggests that perhaps for the future even more of our histories will be written by the method of coöperation. Much as many of us might have liked to see at least one complete volume from the pen of Lord Acton himself, it is a question whether even so great a scholar as he could have gathered into his hands the enormous and varied material covered by such a volume as this. (The Macmillan Co., $4.)

THE classification of Washington's life, indicated in the title of Mr. Owen Wister's "The Seven Ages of Washington," is as satisfactory as any artificial classification can ever be, and the general review of the man shows a very human and natural character, which is fortunately beginning to emerge from the haze of tradition with which stilted and hero-worshiping biographers have for years befogged our vision. A great deal of careful reading and that sympathetic imagination which Mr. Wister's readers expect in his work, have gone into the preparation of this book. (The Macmillan Co., $2.)

AT THE head of the list of recent books on Latin-America stands Mr. Percy F. Martin's "Mexico of the Twentieth Century," an admirable piece of literary work. In his two volumes will be found practically all that most men need to know of a country about which such a vast amount of misinformation has been circulated since North mines and plantations were first exploited. The author came to

his subject after having written an excellent book on South America. He has a pleasing way of pausing now and then, when he reaches an interesting subject or personality, to write as entertainingly as if it were a magazine article. Mr. Martin, who is an Englishman, concedes that we Americans have played the commercial game fairly and adds that "the history of the Americans in Mexico is a history of which any alien country might feel proud." He says:

"The clean-cut, trim-built, stern-faced young American is a familiar sight nowadays in all parts of the world. I have met him in Japan, in Australia in South and Central America, in the British, German, and Dutch Colonies, and occupying positions of responsibility and trust in his own new over-seas possessions. Always one notices the same inflexible purpose, the noble earnestness, the indomitable will to succeed." (Dodd, Mead & Co., 2 vols., $8.50.)

IT has been a long while since a good English book on Brazil was published. In "The New Brazil," Mrs. Marie Robinson Wright has given us an unusually attractive volume, with illustrations on most of its 450 quarto pages. In the course of two years' constant travel within the limits of a single country, an observing writer can accumulate a vast amount of helpful information. It is an occasion of regret that such an acceptable book should have been written with superlatives. Her description of the Cabinet members, for example, makes one feel that it is a pity that some of the other South American countries do not import some of the illustrious statesmen of Brazil. But, while the book cannot be classed with Mr. Martin's "Mexico," it is not too much to say of this that it has all the facts about Brazil that one needs to know. And its wealth of illustration atones for any defects that may be observed. (George Barrie & Son, Philadelphia.)

THAT "tribute, respect" which Wordsworth so eloquently demanded in his sonnet on "The Extinction of the Venetian Republic" continues to be paid, though a century has passed. Both the beauty and the historic unity of the city are brought out in Pompeo Molmenti's "Venice," which has been translated by Horatio F. Brown. The middle division of the work, the two volumes on "The Golden Age," is now ready—covering the period of splendor from the middle of the fifteenth to the middle of the sixteenth century. It affords a surprisingly full account of the life and customs, manners, clothes, amusements, education, and business of the Venetians, and is so admirably illustrated with nearly one hundred full-page pictures as to bring not merely the places but the details of scene and costume vividly to the reader's mind. Lovers of Venice will find the books a storehouse of information and delight. (A. C. McClurg & Co., $5.00.)

A NOBLE book which fitly commemorates a noble career is "Augustus Saint-Gaudens," by Mr. Royal Cortissoz. There is something dignified and rare in the externals of the volume. Its severely simple binding, its tall quarto pages, its strikingly clear type, its air of space and distinction, form a worthy setting for the contents.

The record of Saint-Gaudens's work, in twenty-five exquisite photogravure reproductions of his bronzes and marbles, and the survey of his life, both alike keep the high plane of the whole book. Well written, full of dignity, just discrimination, and measured praise—an appropriate memorial of the career of our greatest sculptor; and by the soundness of its judgments it joins to the note of requiem the rarer note of clear-eyed criticism. (Houghton, Mifflin & Co., $7.50.)

THE novel "A Prophet in Babylon," by W. J. Dawson, is meant to point a moral; and reverently and most effectively it does point a moral; and the moral is that the churches have become professional, that men must employ other means — more earnest means — to lift up society and to stop "the manufacture of crime and poverty." Whether in spite of its message or by reason of it, it is an interesting story; and the earnest thought of it holds you — if you think at all on such subjects. (Fleming H. Revell & Co., $1.50.)

A BOOK of poems of nature, "Lyrics from Cotton Land" comes from the pen of John Charles McNeill, who died not long ago in Lumberton, N. C. The nature of which Mr. McNeill wrote was the nature which existed around him and which he knew with homely accuracy after the manner of Burns. He appreciated, too, the humor and pathos of the Negro. The humorous side of the darkey is also shown in the inimitable illustrations of Mr. Kemble in the book of lyrics. (Stone & Barringer, Charlotte, N. C.)